UNIVERSITY OF OULU

FACULTY OF TECHNOLOGY

STAKEHOLDERS OF PRODUCT MANAGEMENT IN CASE COMPANIES

Claudia Carolina Galdos Palomino

INDUSTRIAL ENGINEERING AND MANAGEMENT

Master's Thesis

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Supervisor: Prof. Harri Haapasalo

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ABSTRACT FOR THESIS

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Abstract

In the current markets, the demand for new products and services have emerged as a consequence of globalization and with it, a healthy competition for market shares and product positioning arise, which have led to technological innovation of products and services. The companies are in a constant search to achieve the maximization of their profits and for that, they have adapted different measures that will improve the development of their current products and the new ones. Product Management comprises the matters related to the proficiency of the product development through the lifecycle of a product. Product Managers are responsible for several processes that encompasses not only matters directed to the product itself but also related to different functions in a company and the management of the product portfolio. Each company possess a unique set of stakeholders which complements the activities of the product managers.

The aim of this Master's Thesis research is to analyze the practices of Product Management in seven case companies and how the identification of the stakeholders that are part of the daily activities of a Product Manager can improve their role. Within this research study, three research questions were set to encompass the objectives and scope which are:

1. How can the stakeholders be analyzed in product management?
2. Who are the key stakeholders of product management in the case companies?
3. What is the development approach for product management in the Small Medium Enterprises (SMEs)?

The research review literature related to Product Management which emphasized New Product Development (NPD), Product Portfolio Management (PPM) and Stakeholder Approach which delve with Stakeholder Management and Stakeholder Theory related to the Identification, Classification and Salience assessment of the stakeholders. The study discusses the role of the Product Managers and how the identification of stakeholders in the seven case companies is carried out. The results of the research indicate that among the Finnish companies a thorough process of the identification of the Stakeholders of Product Management has not been extended as a common practice. Additionally, the key stakeholders of the Case Companies have been identified as well as the active role of a Product Manager.

This research study provides an extensive review of the literature and the key elements to construct a framework based on the Product Management activities which emphasizes the Stakeholder Identification, Classification and Salience assessment that leads to the correct management of the stakeholders in the companies. Salience in the Product Management Stakeholders is a subject that should be researched further.

Additional Information

Key words: Stakeholder, Product Management, Stakeholder Theory, NPD, PPM, Stakeholder Identification.

TIIVISTELMÄ OPINNÄYTETYÖSTÄ Oulun yliopisto Teknillinen tiedekunta

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Tiivistelmä

Globalisaation myötä uusien tuotteiden ja palveluiden kysyntä nykyisillä markkinoilla on kasvanut. Se on synnyttänyt tervettä kilpailua markkinaosuuksista ja tuotteiden asemoinnista, joka puolestaan on johtanut tuotteiden ja palveluiden teknologiseen innovointiin. Yritykset etsivät jatkuvasti keinoja tuloksen maksimointiin parantamalla nykyisten ja uusien tuotteiden kehittämistä eri tavoin. Tuotehallinta käsittää tuotekehitykseen liittyvän osaamiseen koko tuotteen elinkaaren ajan. Tuotepäälliköt ovat vastuussa useista prosesseista, jotka liittyvät tuotteiden lisäksi myös muihin yrityksen prosesseihin ja tuoteportfolion hallintaan. Sidosryhmien vaikutus tuotepäällikön tehtäviin on yrityskohtaista.

Tämän diplomityön tavoitteena on analysoida tuotehallinnan käytäntöjä seitsemässä case-yrityksessä ja selvittää miten tuotepäällikön päivittäisiin tehtäviin kuuluvaa sidosryhmien tunnistamista voidaan kehittää. Tutkimukselle on asetettu kolme tutkimuskysymystä, joiden avulla selvitetään:

1. Miten tuotehallinnan sidosryhmiä analysoidaan?
2. Mitkä ovat tuotehallinnan tärkeimpiä sidosryhmiä case-yrityksissä?
3. Mikä on pienten ja keskisuurten yritysten tuotehallinnan kehitysmalli?

Tuotehallintaan liittyvässä kirjallisuuskatsauksessa korostuu uusien tuotteiden tuotekehitys (NPD), tuoteportfolion hallinta (PPM) ja Stakeholder Approach, joka paneutuu sidosryhmien hallintaan ja sidosryhmäteoriaan liittyen sidosryhmien tunnistamiseen, luokitteluun ja niiden tärkeyden arviointiin. Tutkimus käsittelee tuotepäällikön roolia ja sitä, miten sidosryhmien identifiointia toteutetaan seitsemässä case-yrityksessä. Tutkimustulokset osoittavat, että suomalaisissa yrityksissä tuotehallinnan sidosryhmien tunnistamiseen ei ole yleiseksi laajentunutta käytäntöä. Lisäksi tutkimus osoittaa, että case-yritykset ovat tunnistaneet tärkeimmät sidosryhmät ja ymmärtäneet tuotepäällikön roolin.

Tämä tutkimus esittää laajan katsauksen kirjallisuuteen ja tärkeimmät elementit tuotehallinnan tehtävien viitekehyksen rakentamiseen, joka korostaa sidosryhmien tunnistamista ja luokittelua sekä niiden tärkeyden arviointia, joiden avulla sidosryhmiä voidaan hallita oikein yrityksissä. Jatkotutkimusaiheeksi tunnistetaan tuotannon sidosryhmien tärkeys, jota tulisi tutkia edelleen.

Muita tietoja

Muita tietoja:

ACKNOWLEDGEMENTS

This Master's Thesis comprise of subjects of Product Management and Stakeholder Management which are key elements of the Product Management Master's Programme as well as Management and Economics. The research for this thesis has been extended for an academic year which started in June 2018. This research aimed to Identify the Stakeholders of Product Management in the case companies.

The complition of this Master's Programme has a great importance to the accomplishment of my personal goals and with it, I attained a milestone that was set when I first visited the University of Oulu whilst pursuing my B.Sc. in Economics few years back. I have been able to broaden my knowledge in Industrial Engineering and Management, International Business and Academic Research which have an enormous relevancy in the path I would like to continue.

I would like to thank Prof. D.Sc. Harri Haapasalo for his guidance and help with the case companies and also for supervising my thesis research. I would also like to thank the professors and assistant professors of the IEM faculty for the help and outstanding lectures that enriched my knowledge from different perspectives. I would also like to thank the managers I had the opportunity to interviewed from the case companies. Additionally, I would like to express great gratitude to Prof. D.Sc. Riitta Keiski for her trust, guidance, support and friendship throughout the years. Her profesionalism and passion for work is an inspiration that encourages me to achieve great things.

Finally, I would like to thank my mother Luz and my brother Alfredo for their advice, trust, great support and encouragement to accomplish my goals in Finland. And, to my boyfriend Tero who provided me with great advice, support, patience, love, comprehention and caring through this process and became the missing piece to accomplish my dreams.

Claudia Galdos

Oulu, 10.11.2019

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ABBREVIATIONS

B2B	Business to Business
B2C	Business to Consumer
CEO	Chief Executive Officer
CRM	Customer Relationship Management
CSR	Corporate Social Responsibility
EPP	Enhanced Project Plan
ERP	Enterprise Resource Planning
HR	Human Resources
HW	Hardware
ICT	Information and Communication Technology
KPI	Key Performance Indicator
NPD	New product Development
PDM	Product Data Management
PLM	Product Lifecycle Management
PM	Product Manager
PPM	Product Portfolio Management
RE	Requirement Engineering
RQ	Research Question
R&D	Research and Development
SME	Small and Medium sized Enterprises
SW	Software

1 INTRODUCTION

1.1 Background

In the current business world, the demand for new product development (NPD) and innovation in the products aims mainly to satisfy the -constantly changing- customer needs and that's where the companies find themselves in a hard competition to provide the best of their products, improve their profits and defeat the competitors with new solutions, products or services. *"Business and customer needs as well as companies' design and production capabilities are evolving" (Kinnunen et al. 2014).* Product development is considered to be the heart of every company since is where every product starts as an idea which later will be planned, processed and executed as a new product which will be in the market for long or short period of time according to their success or failure and that is when a product is decided to be terminated or taken out of the market which is known as a ramp-up.

Product management is -from a full perspective- the way companies and organizations manage the existing products of their portfolio during the product lifecycle. The product managers (PMs) have a key role in the companies' production since the initial phases to the very end. Product management have different functions that vary according to the type of industry the company is involved and the products or services that are part of the portfolio. Many of the PM duties are related to management and marketing which creates a misconception of the actual role of a PM.

The main function of a PM is to be able to identify the different stakeholders present in their company and in the products he or she manages. *"Relatively few attempts have addressed the issue of who really matters in product development or what is the weight of different stakeholders" (Kinnunen et al. 2014).* Yet, this is not an easy task to be solved. Within the past few years different scholars have been pointing out the difficulties and challenges of the identification of the different stakeholders in their regular activities and projects and is what is leading to a new wave of interest toward studies on stakeholder management, stakeholder theory and stakeholder identification. Stakeholders in product management have been underestimated which creates a great opportunity to research in companies.

1.2 Research Scope and Objectives

This research has been made from the point of view of the product management and stakeholder theory. The research has been performed by following the standard practices for research process. The principal objective of this thesis research is to define and investigate the different stakeholders present in the Product Management activities and their weight in the small and medium sized enterprises (SME) and large companies of the industry. The research in this subject has not been explored further in case companies. This study is looking to identify and classify the different stakeholders and their proportions in the case companies and in the same measure, determine the degree of influence in the Product Management activities. With this, the research problem has been summarized in the following question:

How can the Stakeholder identification improve the role of the Product Manager?

There are different ways to approach the research problem for this thesis. To begin with, the research analyses the concepts of stakeholder management, the stakeholder classification -between internal and external groups-, the stakeholder salience which, all together create a strong base to understand the different stakeholders and their importance in the Finnish industry. Secondly, the stakeholders will be analysed from the point of view of product management that will cover subjects as product portfolio management and new product development which will support the bases of the research problem.

The study will continue with the analysis of different case companies that will provide empirical data that will identify the stakeholders in their practice and in their roles. To be able to obtain conclusive results, three research questions have been set to answer the main question and to analyze the findings.

RQ1: How can the stakeholders be analyzed in product management? The objective of the first research question is to define Product Management and Stakeholder Theory by reviewing the existing literature which includes concepts and definitions from new product development, product portfolio management, stakeholder salience and stakeholder classification. This will be the basis of the research.

RQ2: Who are the key stakeholders of product management in the case companies? The aim of the second question is to analyse the empirical data from the case companies and reveal the current practices on the subject.

RQ3: What is the development approach for product management in the Small Medium Enterprises (SMEs)? The third question aims to improve the Product Management practices and stakeholder identification in the case companies based on the analysis of the companies and the literature review.

The analysis, definition and classification of the different stakeholders in the Finnish industry have not been studied as a subject of a master thesis. The stakeholders are present in all the industries and companies in different proportions and have a fundamental role in the Product Management activities within the company or organization that have been underestimated or ignored as a fundamental part of the process. Part of this research is to understand the main stakeholders and its primary function in the Product Management role.

1.3 Research Process

The research process was accomplished by the completion of different steps. The first step was a general background analysis and familiarizing with the main topic of the master thesis and with the different literature of Stakeholders and Product Management. After this, the following step was to create or elaborate the research questions and the research objectives as well as identify the research problem to be solved. In *figure 1*, the research process structure is illustrated:

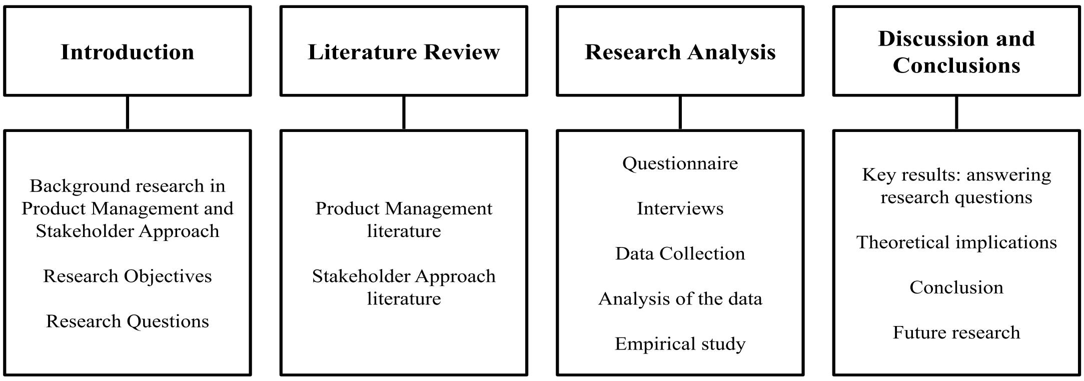

Figure 1. *Structure of the Research Process.*

In Chapter 2, the literature review on product management and stakeholder approach was revised to understand the fundamental role of the stakeholders in the different activities of the product management, the different classifications of the stakeholders and prepare the questionnaire for the qualitative analysis in the case companies. The RQ1, is being answered in this chapter.

The empirical research analysis, in Chapter 3, analyzed seven case companies which will help to understand, identify and classify the different stakeholders among the Finnish case companies. The empirical research will merge both the theory and the approach of the different stakeholders and the product management. The RQ2, is being answered in this chapter.

Lastly, in Chapter 4 and 5, a deeper and closer analysis on the case companies with a broader discussion providing some key results, implications and conclusions to the research. The RQ3 is being answered in Chapter 4.

2 LITERATURE REVIEW

The literature review contains theoretical background of the main subject of this thesis which focuses on Product Management and Stakeholder theory. Both of these fields focus on the research problem of identifying the stakeholders of product management in Finnish companies. The structure of the literature review can be seen in *figure 2*:

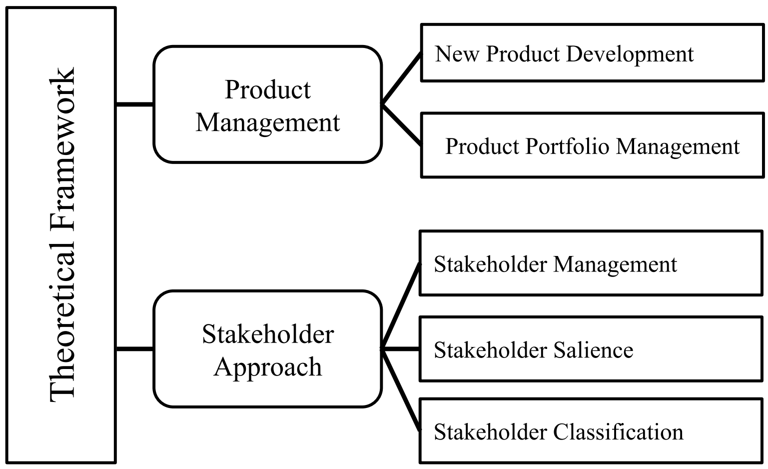

Figure 2. *Theoretical framework.*

This study focuses its attention to the theory related to the fields of product management and stakeholder management.

2.1 Product Management

Nowadays, organizations and companies are focused on providing a product/service or a bundle of products/services to satisfy customer needs and to be recognized in the highly competitive markets. *"Product innovation -the development of new and improved products and services- is crucial to the survival and prosperity of the modern corporation" (Kahn et al. 2013)*. For the companies, being successful is translated into the need to deliver efficiently the products and services in scheduled times which is linked to the need of having a Product Manager (PM) as part of their managerial force to accomplish this. The role of a PM has been evolving over the years and adapting to new solutions, markets, companies and industries hence product management has been a subject for constant misunderstandings specifically when trying to define the actual role of a PM. "*Product Management has no well-defined framework and is often treated as a transient discipline in many companies" (Haines 2009)*. This role has been underestimated and unspecified due to its nature which is considered to be in a holistic area that adapts to the company and the product. To have a better understanding on what is product management, it is important to first define and understand what product and management is to later on define correctly product management.

Product

Kahn et al. (2013) and *Haines (2009),* described product as all the goods or services including knowledge that can be sold. "*This "products" are bundles of attributes that can be unique in features, functions, uses and benefits which can be tangible (goods) or intangible (services) or the combination of both*". *"Products are goods that can be owned, traded, and distributed to different places and times without changing their identity" (Sääksvuori and Immonen 2008)*. *Stark (2015)*, explained that *"the product is the source of company revenues"*. *Haines (2014*), explained that *products can be sold to other businesses (business to business or B2B) or to consumers (business to consumers or B2C)*. *To succeed, companies must create products which meet customer needs and fulfill a multitude of varying requirements (Ulrich et al. 2008; Kinnunen et al. 2014)*. *Product means not only the evident or physical product but the "extended product"- including the system supporting the product, product service and support as well as product's image (Kahn et al. 2013).*

Another definition of product is the one referred to *"something sold by a company to its customers" (Ulrich and Eppinger 2000; Majava 2014; Kinnunen 2016)*. *"Many products have a service component and many services have a product components" (Kotler et al. 2009)*. *"Superior and differentiated products -the ones that deliver unique benefits and superior value to the customer- are the number one driver of success and new product profitability" (Kahn et al. 2013)*. Product definition is, for this study, all the goods and services that a company provides as part of their bundle that are produced or ideated in a company and which are part of a life cycle process.

Management

The practice of management appeared in the industrial era where the need of a neutral link between the workers and owners of factories and businesses were in large demand. Peter Drucker shared his findings and experiences in management, society and corporation and defined modern management: "*the word management denotes a function* *but also the people who discharge it; a social position and rank but also a discipline and field of study" (Drucker 1974). Stein (2010)*, described Drucker's vision of management as *"a social function integrated with culture, society and politics beside of the tradition of shared values, customs and beliefs"*. These authors pointed out the large responsibility that management have taken over the years and the importance of having managers and management, in general, in companies. They also pointed out how the role of the managers have evolved within the years.

Kotler et al. (2009), stated that *"the traditional view of management is based on planning, organizing, leading and controlling"* which are the four cores of managerial approach in a company in current days that put emphasis on the use of networks and teamwork. Other authors like *Kumar and Suresh (2009)*, defined management from an operational view *"as the process which combines and transforms various resources used in the operations subsystem of the organization into value added services according to the policies of the organization"*.

Artto et al. (2011), pointed out that *"management practices that transcend single projects are needed at the corporate business level and that these management practices should focus on the management of multiple projects (i.e. a portfolio of projects) simultaneously as one entity"*. Hence, management has a crucial role in the company which is focused on the importance of different qualifications that are oriented to the ability of performing the company's operations and also leading the employees to achieve profit maximization.

Product Management

Product management is to some authors *"the holistic business management of the product from ideation to the withdrawal from the market" (Haines 2009)*. Other authors believe that *"product management spends most of their time with engineering teams and customers, making critical decisions and ensuring that everything gets done to bring customer-focused products to market" (Lawley 2009)*. For *Kinnunen (2016), "product management is understood as the set of tasks that a product manager needs to conduct"*. *Haines (2014)*, stated that *"product management is the business management of products, product lines or portfolios, holistically, for maximum value creation, across their lifecycle"*. The implementation of product management in the companies have been a subject of study and a learning experience since their perception have changed towards an independent strategy of analysis of their products or portfolio of products.

Achieving these tasks might sound easy to accomplish yet *"to be a product manager, you have to start near the bottom" (Haines 2009)*. Understanding this role requires the person to be embedded with the capabilities of the company, the limitations and also have a plan of action to deliver high quality products and services. This also refers to the deep understanding of the product data, product structure, product configuration and product data management (PDM).

For instance, ***product data*** is the *data related to the product and the processes that are used to design, produce, use and support which is used throughout the product lifecycle (Stark 2005)*. The product data can be used in different levels and achieve different matters from internal operations (engineering, production, management, among others) to external stakeholders like customers or supply chain.

Product structure *consist of all the parts or components, service elements, documents and assemblies of the product which are in hierarchical levels that defines the product components, elements and subsystem or assembly (Sääksvuori and Immonen 2008)*. The product structure provides a more detailed look of the product where it is possible to determine or examine all the components, parts or modules that make possible for the company to create a product or service.

Product configuration is *the variation of the physical properties of the product that are customized according to customer wishes (Sääksvuori and Immonen 2008)*. The product configuration can lead to an expanded bundle of products using the hierarchical structure of the product to create the change and also is used as an advantage that help to fit in different markets or to satisfy customer needs.

Product data management, *integrates and manages all kinds of data referent to the product, processes and applications across multiple systems and media (Kropsu-Vehkaperä 2012; Sääksvuori and Immonen 2008)*. PDM is commonly used to handle product data and other relevant data in a centralized and accessible structure or system that unify it in applications or software.

"Product management is a model for a business organization that includes discovering, innovating, strategizing, planning, developing, introducing, managing, and marketing products" (Haines 2014). This led to the involvement of the product management with other areas of the company and to collaborate with team members from different functions

of the internal operations as well as to explore other connections with stakeholders outside the firm. The *figure 3***,** indicates the different interactions of a product manager with the different stakeholders from within the company as well as externally.

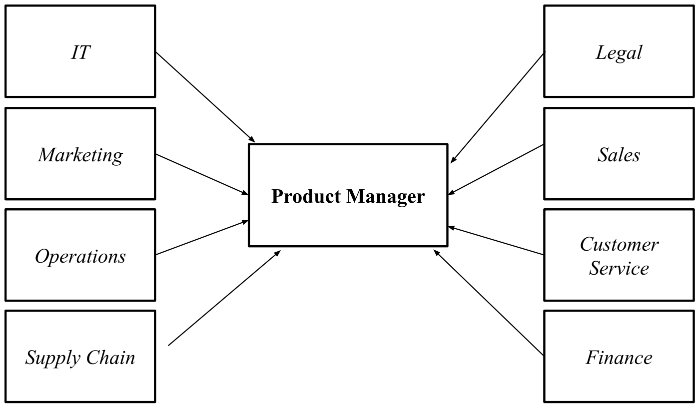

Figure 3. *Product manager's interaction with different stakeholders (Modified from Haines 2014).*

The role of a product manager is very adaptive to the size, market and industry of the company as well as the bundle of products. But ***what exactly is the role of the product manager?*** For instance, *Haines (2009)*, mentioned that *"the product manager can proactively drive more predictable, positive and repeatable results with a set of protocols that provide a standard response for at least some situations"*.

Lehmann et al. (2002), stated that *"the product manager has the primary responsibility of the product or a related product line"* and *"the job involves the collection and synthesis of information, forecasting, market analysis, competitors, revising market strategies and adapting decision to rapid changing market conditions*". Similarly, *Haines (2014)*, defined the role of a product manager as *"the responsible -partly or wholly- for a product platform or architecture, a module or series of modules, a single product, a product line (small product portfolio) or several product lines (larger portfolio)"* and thus, the role of the PM is larger than anticipated.

The PM role display, among others, a great responsibility since the scope of action is broad and complex and also require different competences and capabilities that will enhance the outcome of the decision making of the PM. According to *Haines (2014)*, the PM' practices should cover: *"integrating and synchronizing, leading and influencing, cross-functional teaming, solving problems and making decisions, financial planning and* *analysis, assessment of the industry and competition, segmenting markets, identifying target customers, uncovering customer needs, forecasting, formulating product and marketing strategies and leveraging the product management lifecycle model"*. Yet, many of these practices are subject to the size, bundle of products and the market the company belongs to. *Lehmann et al. (2002*), stated that *"product managers have two responsibilities: i) Planning activities related to the product or product line and ii) get support from higher level management to support marketing programs"*. Yet, that is not all what a PM does in his or her daily operations.

The way PMs administer a product throughout the entire lifecycle is with Product Lifecycle Management or PLM, which comprehends from the ideation, to growth, to maturity and finally, the decline. Within the PLM, different matters are contained according to the market and product type such as strategies, product structures, development strategies and launching of the products. Different authors have explained the product's lifecycle from different perspectives such as Stark (2005), where he explained the manufacturer's perspective as seen in *figure 4.*

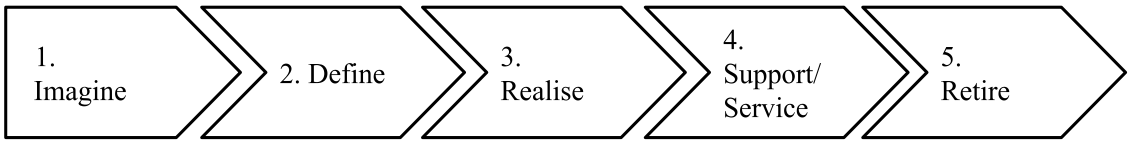

Figure 4. *Manufacturer's View of Product Lifecycle (Modified from Stark 2005).*

Haines (2014), proposed a more specific perspective of the product lifecycle centered in the product management' point of view which comprise from idea creation to the actual product or service. In *figure 5*, the Product Management Lifecycle model is shown.

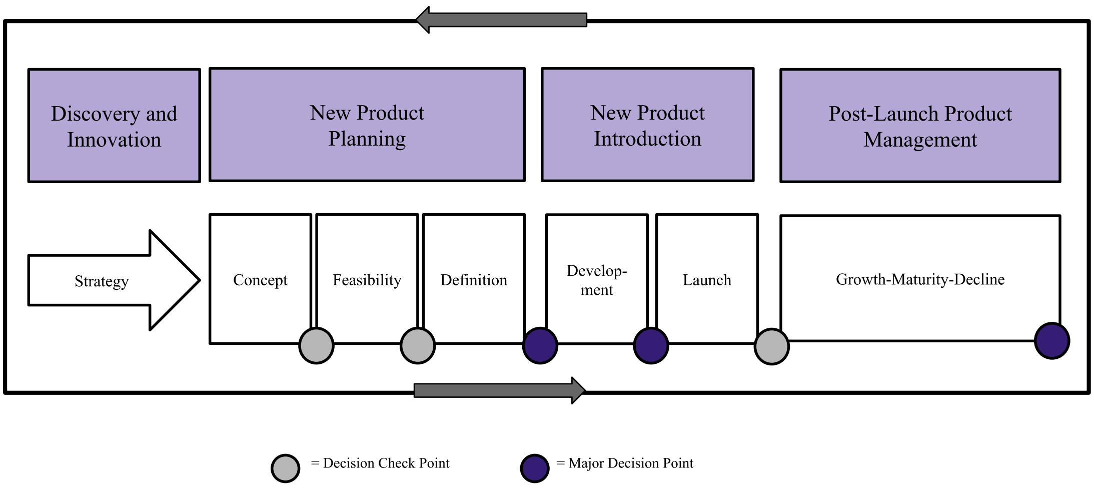

Figure 5. *Product Management Lifecycle Model showing the four main areas of work (Modified from Haines 2014).*

The product lifecycle model work in 4 different areas, according to Haines (2014), which are Discovery and Innovation, New Product Planning Phase, New Product Introduction Phase and Post- Launch Product Management. These areas of work have phases and gates processes which usage have proved its effectiveness to handle informed decision making.

In the Discovery and Innovation area of work, the markets are analyzed to find which are the current trends on products, which are the demands and needs from customers and what the competitors are doing. The market analysis is a very successful way to understand the needs of the customers and determine the feasibility of success of the product. The strategy formulation is a continuous process that provide current performance information with market insights that points out successful paths for the different organizational teams (Haines 2014).

The area of work of New Product Planning has three phases or modules: i) Concept phase, which comprise of the idea generation and initial testing; ii) Feasibility phase, where the new ideas are evaluated in a greater detail and iii) Definition phase, where the products are designed and specified and also, they are ready for development. In this phase, the product requirements, business capabilities, business case, launch plan and marketing plan are deeply considered and are a requirement for development funding which is tied up with the success of this phase (Haines 2009; Haines 2014). If the product meets the established criteria the project can continue and in case it doesn't the project is stopped or rejected.

The New Product Introduction area of work is known as the execution phase where the product is under development and preparations for the introduction of the product to the markets. In this work area, there are two critical phases: i) The Development phase, where documentation and product support material like software are built or developed in accordance of the product requirements; and ii) The Launch phase, which are the product marketing activities used to bring the product to the markets. These phases are carried out as an intense cross-functional endeavor (Haines 2009; Haines 2014).

In the Post-Launch Product Management area of work, the product is measured in terms of performance and the firm's strategy. The main focus in this area of work is the optimization of the product by achieving set goals and adjusting some of the key indicators. There are three phases that are monitored and where the products are assessed: i) Growth, ii) Maturity and iii) Decline. In this area of work, information is collected regarding the product performance in the market and the activities in the marketplace of the competition (Haines 2009; Haines 2014).

In all of these four areas of work different decisions are taken in order to continue -or not- with a project or a product as well as a go/no go platform to decide whether the product will be sent to development or left behind, and also, when the product will be pulled off the market once it has reached the maturity level. Along the product lifecycle, there will be affecting phases or stages that can help the product to move forward or can actually require structural changes to adapt to the markets. *"Decisions made affect future elements of the lifecycle of the product" (Haines 2014)*.

"Product management provides a framework for consistency in the use and governance of key business practices" (Haines 2014). The role of a PM in a company, involves very complex tasks such as the understanding of the product, the market, the customers and the company along the product's lifecycle. PMs require to have certain amount of skills in different fields like in management, finance, marketing and engineering which will help them to achieve product success and value maximization, *"which are met through the continuous planning and execution of product solutions" (Van der Merwe 2004).*

The role of a PM requires involvement with different areas of the company and understanding of the key stakeholders from within the company as well as the external stakeholders which includes customers, competitors and supply chain, among others. *"Product managers develop the ability to work with other areas of the organization and* *persuasion and communication skills necessary to be an advocate of the product" (Lehmann et al. 2002).*

2.1.1 New Product Development

Companies are in constant search for the right products or services that will succeed in the markets and will provide or generate high revenues. The key process to reach this success is through product innovation. The New Product Development, or NPD, is explained throughout the literature and different authors. For example, *Trott (2012)*, explained innovation as *"the ability to change and adapt which is essential to the survival of the companies"*. *Cooper (2013)*, described product innovation as *"the development of new and improved products and services which is crucial to the survival and prosperity of the modern corporation"*.

Annacchino (2003), pointed out that *"as part of NPD innovation needs to be a key component and companies need to be aware of the fact that product development is necessary to grow, and this growth should also apply to the core technology"*. *Bhaskaran and Krishnan (2009)*, pointed out that *"new product innovation has long been a key avenue for revenue and profit growth, especially in industries such as life sciences and high technology"*. *Trott (2012)*, defined innovation as *"the management of all activities involved in the process of idea generation, technology development, manufacturing and marketing of a new (or improved) product or manufacturing process or equipment"*. For *Majava (2014), "NPD is often considered as a sub-process of innovation process"*.

What is New Product Development? To some authors like *Trott (2012), "NPD is the subprocess of innovation which concerns the management of disciplines involved in the development of new products"*. This viewpoint is translated into the different measures each company portrayed the new product development in their own field or industry as well as how it compensates other perspectives that are not fully in use. *Krishnan and Ulrich (2001)*, explained that *"how the products are developed differs not only across firms but within the same firm over time"*. For *Kahn et al. (2013), "product development must be run as a multidisciplinary, cross-functional effort"*. In *Figure 6*, the different perspectives to analyze NPD are exposed.

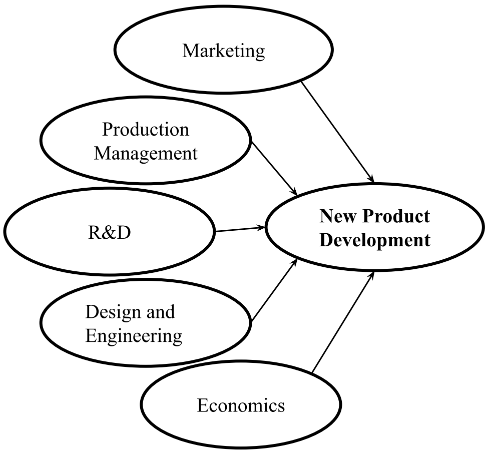

Figure 6. *Different Perspectives to Analyze the Development of New Product (Modified from Trott 2012).*

For other authors, product development is *"the transformation of a market opportunity and a set of assumptions about product technology into a product available for sale" (Krishnan and Ulrich 2001; Majava 2014).* For *Kinnunen et al. (2013), "NPD is a key process for companies in seeking business success". Majava (2014)*, explained that *"product development involves a lot of complexities, and creating successful products is difficult". Stark (2005)*, described product development *"as one of the many activities in the lifecycle that is closely integrated with the other activities".*

"The development of a product typically occurs in stages and at each stage, the product is evaluated to determine whether it makes sense to proceed to the next stage" (Lehmann et al. 2012). The usage of the stages method is fundamental to achieve good results and is part of the product management role which enable a clearer decision making. In *figure 7*, the product stages of new products are presented.

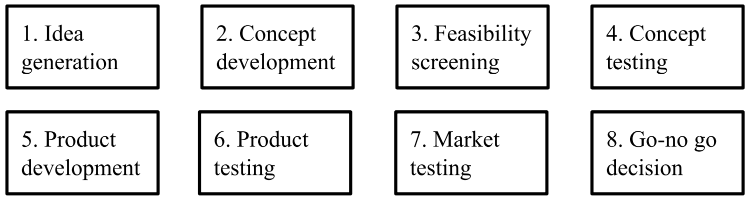

Figure 7. *Product Stages in NPD (Modified from Lehmann et al. 2012).*

Some variations to the NPD model can be found in the literature. All of them are very similar in scope yet some minor variations are experienced which are according to the industry or the economic segment they belong. Trott (2012), exemplified a common NPD linear model as the one shown below in *figure 8*:

Idea generation → Idea screening → Concept testing → Business analysis → Product development → Test marketing → Commercialisation → Monitoring and evaluating

Figure 8. *Linear NPD Model (Modified from Trott 2012).*

To some authors, product development is the sum of different decisions. For example, Krishnan and Ulrich (2001), divided product development into four categories: concept development, supply chain design, product design and product ramp-up/launch. All of these categories are part of the process to achieve optimally product development in a single product or in a portfolio as well as being considered from different perspectives and stakeholders' angles. Moreover, *"New product development and management of the product portfolio are becoming increasingly important strategic factors that influence a company's competitiveness" (Govil et al. 2002).*

Another vision of the development of new products come as an association or built up network. Authors like *Bhaskaran and Krishnan (2009)*, pointed out that *"when firms have distinctive capabilities, innovation sharing agreements help firms exploit their specialized product development capabilities and provide firms the appropriate incentives to ensure greater investments in technology and product development."* These authors explained the perception of the co-development approach that have been in use for some time now within companies of different sectors worldwide. Similarly, *Kinnunen et al. (2013)*, explained the "Business Ecosystem" as how *"the new product development in the current business environment is often beneficial to be conducted in collaboration with others in order to share risks, and to increase the efficiency and effectiveness of the required activities"*. To these authors, the importance of sharing benefits is as crucial capability as sharing risks, costs and challenges that come along in the development process and within the selected type of collaboration they have. Product development is a key component of the activities of a PM which lead to the expansion of the portfolio of products.

2.1.2 Product Portfolio Management

"Portfolio management is about making strategic choices like which markets, products and technologies, our business will invest in. It is about resource allocation and how you will spend your scarce engineering, R&D, and marketing resources" (Cooper et al. 1999). "Companies are turning to portfolio management as an aid in helping management deal with limited NPD resources in an attempt to optimize the returns from product innovation" (Kahn et al. 2013).

Product portfolio management (PPM) has a holistic perspective and is understood in different fields of studies related to investment, production or management. For example, *Hiriyappa (2008)*, defined product portfolio management as *"all that it concerns to the construction and maintenance of a collection of investments, reducing risks and aiming to achieve the maximum return of investment of the portfolio*". *Kahn et al. (2013)*, explained product portfolio management *"as a critical management process that executives uses to achieve successful product innovation".*

Artto et al. (2011), suggested that *"corporate level management practices should focus on the management of multiple projects or portfolios as one entity"*. Similarly, Haines (2009), explained that several product lines may be grouped in a related collection or product portfolios where these portfolios could be a mix of existing products that are at different lifecycle phases which includes the upcoming products that are anticipated and are currently under development or launching phase. *"Product portfolios are the company's existing products that have been categorized by customer segments, product families, or product types and services" (Tolonen 2016; Kropsu-Vehkaperä and Haapasalo 2011)*. Moreover, portfolio management is a dynamic decision process where there is an evaluation, selection and prioritization of opportunities that connects strategy to implementation (APQC 2007; Cooper *et al.* 1997).

Therefore, a good definition of PPM -in engineering- is the one related directly to the correct management of a product or a bundle of products in a company aiming to accomplish the key goals and value maximization of all the products. Under this perspective, *Kahn et al. (2013),* defined portfolio management as *"a mix of strategic and tactical approaches"*. The first, strategic approach, is related to organizational innovation that comprises market opportunities, technology and products, whereas, the tactical approach, comprises of different tactical allocation of resources or initiatives. A visual example of Haines (2009) product portfolio structure can be seen in the *figure 9*.

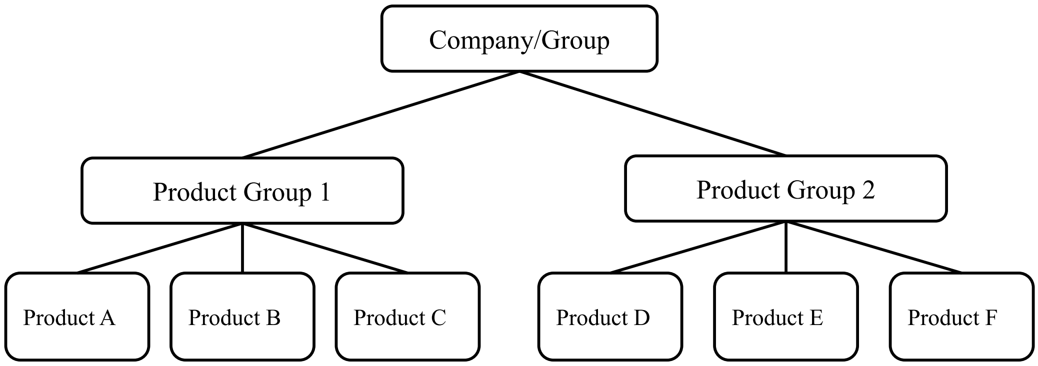

Figure 9. *Product Portfolio Structure (Modified from Haines 2009).*

Portfolio Management in NPD practices aims to achieve four main goals which are value maximization of the portfolio, encompassing the company's strategy into the portfolio, attempt to have balance of projects -and product- as well as practicing decision making and resource allocation (Cooper *et al.* 1997; Cooper *et al.* 1999; Kahn *et al.* 2013). *"The analysis of the portfolio and decision making need to be done periodically or based on certain events" (Tolonen 2016).*

"Effective portfolio management is vital to successful product innovation" (Cooper et al. 1999). Throughout a well performed PPM it is possible to achieve higher revenues, correct allocation of company resources, innovation and a steady performance in the markets. PPM is considered to be a more structured path to practice decision making and resource allocation. The process of decision making in PPM is the summation of viewpoints, uncertainty, goals and strategies -beside others- however, it also requires periodic reviews of the whole portfolio which allows to make clear and structured decisions (Cooper *et al.* 1997; Tolonen 2016).

In Product Management and PPM, NPD is part of the product lifecycle. *"PLM strives for better product data utilization throughout the entire product lifecycle. This requires understanding various stakeholders handling the product and their specific product data needs" (Kropsu-Vehkaperä et al. 2011)*. Different authors like Trott (2012), Haines (2014), Stark (2005), Sääksvuori and Immonen (2008), among others, have presented modified models that represents the NPD under different circumstances and that vary according to the industry and the field of study that examined it. Tolonen *et al.* (2015), presented a different approach of the product lifecycle from the perspective of PPM, where they suggested that the "renewal of product portfolio over the lifecycle assumes the frequent horizontal flow of products from NPD phase to later phases of the lifecycle".

Tolonen *et al.* (2015), suggested the continuous removal of products in the portfolio which should be made progressively over the lifecycle to avoid that the portfolio is overcrowded and to open and opportunity to NPD. The phases of the product lifecycle are shown below in *figure 10*:

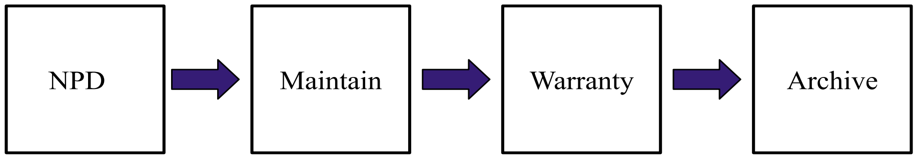

Figure 10. *Product Portfolio Management Over Lifecycle (Modified from Tolonen et al. 2015).*

This model has four lifecycle phases as proposed by Tolonen *et al.* (2015): NPD, Maintain, Warranty, Archive Portfolio. The NPD phase comprehends of the idea conception, development, design and engineering of a product until it reaches the market. The Maintain phase, focuses on how the product is doing on the market (product sales), delivery, volume of the product, changes or variations to the product are added and the product data is updated. The Warranty phase is focused on the spare parts and the repair operations aiming not to generate any new changes. The last phase is Archive, which focus on the storage of the data of removed or retired products as legally required and it remain available to customers upon request. This model is a key component of the product management decision making and structure of the product or portfolio.

2.2 Stakeholder Approach

The rapidly changing and emerging worldwide markets have created a hard to keep environment for the companies that have been adapting in different ways which include the constant innovation of their bundle of products, the supply chain, their technology, among other important changes. Authors like *Cochran (1994)*, explained that *"stakeholder theory contends that firms have obligations to a wide range of different constituents including stockholders, customers, workers, managers and so on"*.

Wood (1994), explained that "*a comprehensive stakeholder theory of the firm would help us understand managers, firms, and stakeholders in the context of the vast network of personal, organizational, institutional, and intersocietally relationships that are more realistically descriptive of how social systems operate". Freeman (1984*), on the other hand, explained how "*the emergence of a multitude of government regulations, corporate critics, media attacks, and most importantly, substantial competition have put the modern manager in constant pressure"*. Yet, little is known about the actual role of a stakeholder and all the power that carries actively and passively.

"The stakeholder concept provides a new way of thinking about strategic management" (Freeman 1984). Strategic management has a direct impact on the functions of the PMs and thus, the identification of the different stakeholders is considered as a primary matter. *Ayuso et al. (2007)*, explained that *"there has been little research on how to integrate the interests of all the different stakeholders into the corporation's decision-making and management processes and on the effects of adherence to these practices"*. The understanding of the different stakeholders and their value to the company, to the network, to the supply chain and to the company -as valuable assets- can influence positively or negatively to the corporation or company involved.

Aaltonen et al. (2008) and Kinnunen et al. (2014 b), explained that *"to achieve product success, it is essential to understand both the objectives of stakeholders and the means through which their interest can affect the design and development". Kropsu-Vehkaperä et al. (2011)* suggested that *"different stakeholders require a common understanding over a product"*. Hence, the stakeholder theory helps to understand the different types of stakeholders from the point of view of a PM.

2.2.1 Stakeholder Management

Companies in various industries have as part of their business or organization a significant number of stakeholders. Authors like *Kinnunen et al. (2014) and Andriof (2002)*, explained that *"stakeholders are the people and organizations that have a liability/accountability to which can directly or indirectly be affected by a project (or an activity) and, at some level, have interests in the project (or activity) and/or the ability to influence in a positive or negative way the outcomes of such a project"*. Stakeholder management can be seen as well from a more ethical and political perspective as the one referred in Corporate Social Responsibility (CSR). *Ayuso et al. (2014)*, pointed out that *"the stakeholder approach links (CSR) to a firm's core mission"*. Yet for the extent of this study we will not look further into CSR.

Different scholars differ from the existing literature about stakeholder management. For example, *Aaltonen et al. (2008)*, explained that *"the purpose of stakeholder identification and analysis is to facilitate the understanding of how to manage stakeholders in increasingly turbulent and unpredictable environments." Post et al. (2002)*, explained that *"the term 'stakeholder management' refers to the development and implementation of organizational policies and practices that take into account the goals and concerns of all relevant stakeholders*". Freeman (2017), explained that the companies create value in the relationships with the stakeholders through the interaction of their managers and thus, understanding how that relationship work is managing stakeholders.

In a similar way, *Donaldson and Preston (1995)*, commented that *"stakeholder management requires, as its key attribute, simultaneous attention to the legitimate interests of all appropriate stakeholders, both in the establishment of organizational structures and general policies and in case by case decision making"*. *Andriof (2002)*, mentioned that *"is part of the present to engage stakeholders for long-term for value creation"* and that *"the process of (stakeholder) engagement creates a dynamic context of interaction, mutual respect, dialogue and change, not one-sided management of stakeholders"*.

Likewise, *Post et al. (2002)*, commented that *"the key to effective implementation is recognition of stakeholder management as a core competence"*. *Friedman and Miles (2006)*, explained that *"effective stakeholder management, like any other form of management, should be informed by theory as well as best practice"*. Therefore, stakeholder management aims to create a larger bond between stakeholders and companies that just purely managing them.

Andriof (2002), expanded more in the subject and explained that *"the emergence of new stakeholder engagement strategies, including strategic alliances and partnerships, social partnerships and multi-sector collaborations, means that collaborative strategies (as opposed to purely competitive strategies) have become a critical basis for stakeholder engagement"*. The point of view of this author about the new wave of stakeholder engagement is to create a healthy relationship between the stakeholders and the companies increasing the probabilities to enhance current relationships in the long term as mutual commitment which is expected by the companies and is considered to be an important element in stakeholder management.

Similarly, *Freeman (1984)*, explained *that "there is a need of concepts and processes which give integrated approaches for dealing with multiple stakeholders on multiple issues"* which he later exemplify by noting that *"for each major stakeholder, those managers responsible for that stakeholder relationship must identify the strategic issues that affect that stakeholder and must understand how to formulate, implement and monitor strategies for dealing with that stakeholder group"*. The focus on the stakeholder's groups surrounding the companies are several and each of the groups can be as small as having one or two stakeholders or larger numbers. The stakeholders can be divided into subgroups which vary according to the company and the industry. In the *figure 11*, Freeman's Stakeholder View of the Firm can be seen from a new perspective. This figure explained a map of the organization which takes into account all the groups or individuals that can affect or are affected by the accomplishment of the organizational purpose, as explained by Freeman (1984).

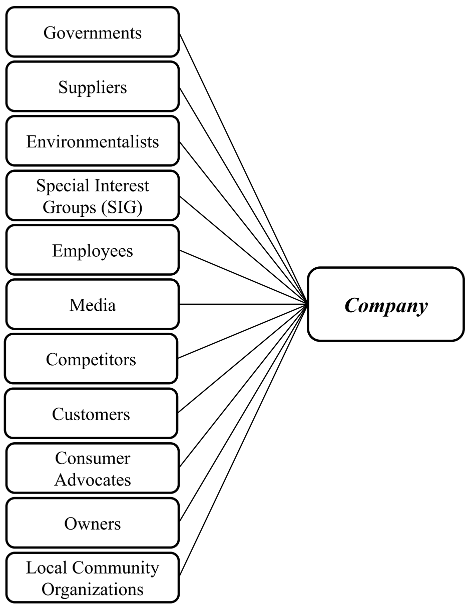

Figure 11. *Stakeholder View of the Firm (Modified from Freeman 1984).*

Stakeholder management has been a subject of study in various industries and backgrounds. For example, Aaltonen *et al.* (2010), revised the importance of different research done in project management and the importance of understanding and managing correctly the different stakeholders as well as the identification of the primary and secondary stakeholders. For these authors, primary stakeholders are all the stakeholders that have contractual relationship with the company (or a project) e.g. customers, suppliers or governmental authorities; and the secondary stakeholders are the stakeholders that do not have a contractual relationship with the company (or the project) and these can be community groups, non-governmental organizations, environmentalists, among others. The authors explained the importance of the primary stakeholders which carry the economic interests -especially when materializing a project- as well as the secondary which have an essential role and may impact largely the outcome of the project or the activities in the company.

Clarkson (1995), explained that a "*primary stakeholder group is one without whose continuing participation the corporation cannot survive as a going concern"* and *"the secondary stakeholders groups are defined as those who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival"*. He explained that the interdependencies between the companies and the primary stakeholders are very high since the companies rely directly on this stakeholder group whereas the secondary stakeholders -which are not required to the survival of the company- can create a vast damage in other means.

Aaltonen *et al.* (2008), Aaltonen *et al.* (2010), Kinnunen *et al.* (2013) and Friedman and Miles (2006), recognized a particular group of stakeholders that have a crucial role within both the internal and external stakeholders. The latter authors mentioned that "a particular group of stakeholders -(top-level) managers- are thought of as the focal group, charged with fulfilling the role of stakeholder management". It is valid to interpret this as that the top management role pivot according to the company and the stakeholders, as well as the organizational structure which comes along with the size of the company where the decision making can be open to approval of other parties involved like CEO, board of directors, among others.

Aaltonen *et al.* (2010), explained how the stakeholders can also affect not only the companies but also ongoing or future projects as well as the decision-making process. *"Stakeholders can have the potential to influence management's decision making within the lifecycle of a project" (Aaltonen et al. 2010)*. The authors explained that the disruption can be due to several factors that create a positive or negative impact on the stakeholders. This can consequently bring up delays, late modifications, added costs and ultimately the end of a project. Hence, the need for having a proper way of stakeholder management is crucial to the survival of the companies and their projects.

Aapaoja and Haapasalo (2014), bring the concept of stakeholder management extended into project management -or under the role of PM. The authors explained a framework with the use of Requirement Engineering (RE) -which is *“the process of gathering the requirements of the stakeholders with regard to a project" (Aapaoja and Haapasalo 2014 b)* that will help to identify the stakeholders legitimate claims in advance and have them documented as well as classifying them. The RE suggested by the authors stated that there is a need of constant monitoring which normally is done by a company manager (PM or a project manager). They also presented an interesting framework which is intended to use in projects but could be extended to be used in the overall stakeholder identification, classification and management in the company. In *figure 12*, the framework for stakeholder identification can be observed.

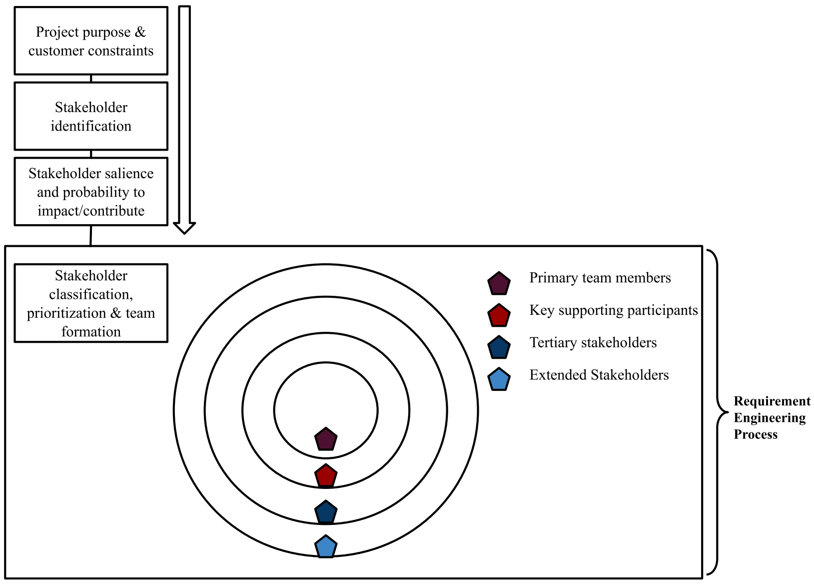

Figure 12. *Framework for Stakeholder Identification and Classification (Modified from Aapaoja and Haapasalo 2014).*

According to Aapaoja and Haapasalo (2014), the framework is divided into four main stages or phases: i) Definition of the project purpose and customer constraints, ii) Identification of project stakeholders in their functional role, iii) Stakeholder salience assessment and probability of their impact/ability to contribute and iv) Classification and prioritization of the stakeholders in four groups. The RE is included in this framework once the phase four is reached -when the stakeholders have been classified- since *“only* *then the requirements can be systematically collected and managed" (Aapaoja and Haapasalo 2014)*. The main focus of this framework is set at the beginning of the project where the identification of the stakeholders takes place. Later, with the project ongoing, there is no room for plausible changes or additions since it is important to remain within a structure of the stakeholders that will be analyzed during the length of the project and where their salience will be taking into consideration.

Aapaoja and Haapasalo (2014) also presented a distinctive method -to assess the stakeholders' salience and the impact or ability to contribute in a project- with the use of an assessment matrix based on the work of Olander (2007) and Mitchel *et al.* (1997). In the Aapaoja and Haapasalo (2014) matrix it is possible to observe in the Y-axle (vertical axle) the stakeholder's salience and the seven stakeholder attributes -as explained by Mitchell *et al*. (1997): Dormant, discretionary, demanding, dominant, dangerous, dependent and definitive. The Y-axle have a higher correlation with the level of impact/ ability to contribute which is contained in the X-axel (horizontal axle). The matrix is divided into four categories: i) "Key players": considered to be the primary team members, ii) "Keep satisfied": the tertiary stakeholders who does not have a personal interest in the project, iii) "Keep informed": are the key supporting participants who has or wants to impact/contribute to the project, and iv) "Minimal effort": or extended stakeholders whom lack of attributes in the project. In *figure 13*, the stakeholder assessment matrix is presented.

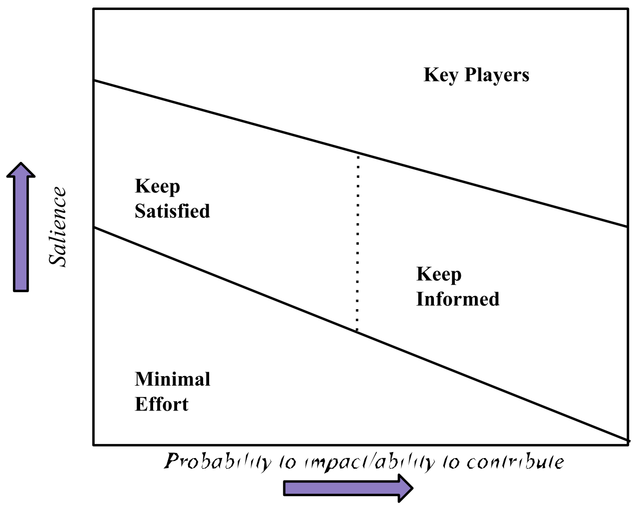

Figure 13. *Stakeholder Assessment Matrix (Modified from Aapaoja and Haapasalo 2014).*

This matrix has a large impact on identifying and classifying the different stakeholders presented in projects yet in this study it will not be put in practice since it requires different measurements to calculate the salience of the stakeholders and will need to be modified to measure the case companies stakeholders. Nevertheless, it could be applied in specific cases in further studies.

2.2.2 Stakeholder Theory

"A prominent attribute of stakeholder theory is the need for decision makers to take into consideration multiple, and sometimes conflicting, interests" (Collins 1994). The stakeholder theory has been understood mostly from the point of view of a manager which is in charge of decision making in his or her role, yet, this theory is very complex. To be able to understand the stakeholder theory is required to be embedded not only in the company's knowhow but also be able to understand different angles and perspectives of the stakeholders inside or outside the company.

Andriof (2002), explained that *"the evolution of the stakeholder theory focus its attention on the importance of the relationship that companies have with the stakeholders that go beyond those with shareholders"*. The author explained that the development of stakeholder theory has two main streams which are the i) definition of stakeholder concept and ii) the classification of the stakeholders into categories. The relationship that companies have extended with their stakeholders are very unique in essence since they can be purely economical or with a reason to enable such relationship.

The term stakeholder can be found in different areas of studies such as economics, finance, supply chain, among others and thus, the definition is quite broad. But ***What is the proper way to define a stakeholder*? *"The term stakeholder appears to have been invented in the early '60s as a deliberate play on the word stockholder to signify that there are other parties having a stake in the decision-making of the modern, publicly-held corporation in addition to those holding equity positions" (Goodpaster 1991). Freeman (1984)***, defined the stakeholders *"as any group or individual who can affect or is affected by the achievement of a corporation's purpose"*. The author exemplified some of the most common stakeholders including *"employees, customers, suppliers, stockholders, banks, environmentalists, government, and other groups that can help or hurt the corporation"* -which remained until today as valid stakeholders.

Carroll et al. (2012), defined stakeholders as *"individuals or groups with which business interacts who have a 'stake', or vested interest, in the firm"*. For *Jones and Wicks (1999)*, *"the term stakeholder concept is relatively vague and, thus, gives little direction to either the study or practice of management"*. *Starik (1994)*, noted that many of the most common definitions rely on common grounds like that *"the stakeholder and the entity whom the stakeholder has some connection, such as an organization, and individual or a society"*. The author referred to the fact that the term stakeholder can adapt to different views and it depends on the *"perception, visibility and linkage"*.

Donaldson and Preston (1995), defined the stakeholders as *"persons or groups with legitimate interests in procedural and/or substantive aspects of corporate activity"*. *Post et al. (2002)*, explained that *"the stakeholders in a firm are individuals and constituencies that contribute, cither voluntarily or involuntarily, to its wealth-creating capacity and activities, and who are therefore its potential beneficiaries and/or risk bearers." Clarkson (1995)*, defined stakeholders as *"persons or groups that have, or claim, ownership, rights, or interests in a corporation and its activities, past, present, or future"* and that "*such claimed rights or interests are the result of transactions with, or actions taken by, the corporation, and may be legal or moral, individual or collective"*. The term or definition of a stakeholder in this study is the one referred to the individual who has a relationship with the company and is affected by the activities of the company positively or negatively.

It is important to understand the definition of stakeholder and stakeholder theory. Different definitions have attempted to define stakeholder theory and can be found in the extensive existing literature. Hence, ***what is stakeholder theory*?** *Aaltonen et al. (2008*), explained that *"stakeholder theory provides a solid standing point for identifying, classifying and categorizing stakeholders and understanding their behavior in order to better manage them." Carroll (1994*), defined stakeholder theory as *"the total body of knowledge that exists or has been postulated regarding the use of the stakeholder concept and its attendant propositions regarding the management of organizations using the notion of stakeholders as the centerpiece of the discussion"*.

Ayuso et al. (2007), explained that *"the stakeholder theory states that firms must consider the interests of multiple stakeholders in managerial decision-making"*. The authors explained that the *"stakeholder theory has both normative (moral/ethical) and* *instrumental (profit/wealth-enhancing) implications"* which referred to the nature of the claims and the importance to the stakeholder. *Donaldson and Preston (1995)*, explained that *"stakeholder theory is intended both to explain and guide the structure and operation of the established corporation" and that "it goes well beyond the descriptive observation that 'organizations have stakeholders'".*

Frooman (1999), explained that *"stakeholder theory is about managing potential conflict stemming from divergent interests"*. The stakeholder theory can be interpreted from different angles and situational occurrences as well as industrial perspective, yet the overall aim is that the companies are able to identify the different stakeholders in companies and projects develop in such company.

According to *Jones and Wicks (1999)*, there are four premises of stakeholder theory: i*) "The companies have relationships with many constituent groups or "stakeholders" that affect and are affected by its decisions" as stated by Freeman (1984); ii) "The theory is concerned with the nature of these relationships in terms of both processes and outcomes for the firm and its stakeholders". iii) "The interests of all (legitimate) stakeholders' have intrinsic value, and no set of interests is assumed to dominate the others" (Clarkson 1995; Donaldson and Preston 1995) and iv) "The theory focuses on managerial decision making as explained by Donaldson and Preston (1995)."*

Donald and Preston (1995), Freeman (1994) and Jones and Wicks (1999), explained the three types of stakeholder theory: Descriptive, Instrumental and Normative which can be seen in *figure 14.*

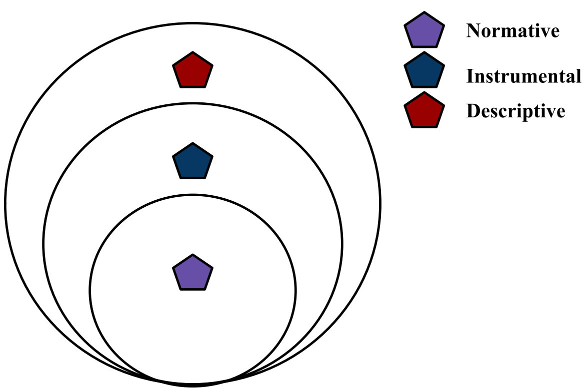

Figure 14. *Three Aspects of Stakeholder Theory (Modified from Donaldson and Preston 1995).*

The ***descriptive stakeholder theory***: *Jones (1994*), suggested that in descriptive or empirical stakeholder theory the "*firms and/or managers actually behave in certain ways". Brenner and Cochran (1991)* and *Jones (1994*), explained that *"the stakeholder theory of the firm posits that the nature of an organization's stakeholders, their values, their relative influence on decisions and the nature of the situation are all relevant information predicting organizational behavior". Donaldson and Preston (1995)*, explained that *"the theory is used to describe, and sometimes to explain, specific corporate characteristics and behaviors"*. This descriptive theory aims to explain the relationships between corporations or companies and the different stakeholders.

The ***instrumental stakeholder theory***: *Jones (1994)*, suggested that *"certain outcomes are more likely if firms/managers behave in certain ways". Jones and Wicks (1999*), explained that *"if firms contract (through their managers) with their stakeholders on the basis of mutual trust and cooperation, they will have a competitive advantage over firms that do not". Donaldson and Preston (1995)*, explained that *"the theory is used to identify the connections, or lack of connections, between stakeholder management and the achievement of traditional corporate objectives"*. The instrumental theory aims to create a connection between stakeholders and the corporation with the intention to reach common grounds as stability, growth and profitability, among others.

Lastly, the ***normative stakeholder theory***: *Jones (1994)*, suggested that *"firms or managers should behave in certain ways". Freeman (1994*), describes this theory as *"inextricably linked to the way that corporations should be governed and the way that managers should act"*. The author also sees this stakeholder theory as *"consistent with modern understanding of property". Donaldson and Preston (1995),* explained that *"this theory is used to interpret the function of the corporation, including the identification of moral or philosophical guidelines if the operation and management of corporations"*. This theory is aiming to explain the real purpose of the corporation and their moral principles towards the stakeholders. Different authors agreed that the theory that resembles more to real life is the normative theory.

Donaldson and Preston (1995), explained *"that the ultimate managerial implication of the stakeholder theory is that managers should acknowledge the validity of diverse stakeholder interests and should attempt to respond to them within a mutually supportive* *framework, because that is a moral requirement for the legitimacy of the management function".*

Freeman (1994), Jones (1994), Starik (1994), Donaldson and Preston (1995), among others, suggested that the stakeholder theory is a subject that is very delicate in nature since it has a thin line which complies with the ethical structures of the companies and the value maximization. Moreover, the companies have to make a decision about the position of their stakeholders, whether they are internal or external, and integrate business and ethics. In the extent of this research study, these three stakeholder theories will not be part of the analysis.

Among the different authors reviewed in this study, there have been common grounds on how to understand the impact of stakeholders in the companies. Many of these authors aimed to identify not only the nature of the relationship but what is the role of the company through the development of the activities of the (product) management or person in a similar position. For example, Ayuso *et al*. (2007), tried to explain the importance of the stakeholders in the governance of the company since it promotes stakeholder engagement. *Post et al. (2002)*, explained that *"the stakeholders of any firm are usually quite diverse, but the relationships between the firm and each of its stakeholders have many common features; and the stakeholders have common interests (as well as potential conflicts) among themselves"*.

Starik (1994), assert that *"a wide range of criteria for deciding what a stakeholder is (or is not) may be the most prudent approach in both defining and managing stakeholders". Freeman (1984)*, emphasized that *"the stakeholder approach is about groups and individuals who can affect the organization, and is about managerial behavior taken in response to those groups and individuals". Post et al. (2002)*, in a more asserted way suggested that *"the long term survival and success of a firm is determined by its ability to establish and maintain relationships within its entire network of stakeholders"* and that *"the critical challenge for contemporary management is recognition of mutual interests among the firm and its stakeholders, leading to the development of consistent and supportive policies for dealing with them"*.

Andriof (2002), aimed to explain stakeholder management and the relationship between stakeholders and companies which is not only based on the classification of the stakeholders but acknowledging that "*each firm faces a different set of stakeholders which* *aggregate into unique patterns of influence"* and hence, this creates that each company hold different stakeholders and behave in a certain way with them. Similarly, *Clarkson (1995)*, pointed out that *"it is necessary to distinguish between stakeholder issues and social issues because corporations and their managers manage relationships with their stakeholders and not with society"* which leaves us with the understanding that relationships between companies and stakeholders can be misunderstood by the society and it creates hassle based on facts not related to the company.

The stakeholder theory helps to understand and expand the knowledge of the different stakeholder approaches and theories available from the vast literature that have emerged within the years. Stakeholder theory provides the simplistic way to approach to the different matters regarding stakeholder involvement, ethical practice beside of being able to identify and classify the stakeholders in the companies and projects which facilitate the PMs role in the company and to reduce risks that may arise with the acknowledgement or disregard of certain groups of stakeholders.

2.2.2.1 Stakeholder Salience

Various scholars have been trying to identify the different stakeholders and their value or impact on an ongoing project or to the company itself. In the management world, it is translated into the identification of the most valuable stakeholders present in projects or processes within companies. This task is very commonly performed by the PM or upper management. Over the years different authors have come up with different frameworks that could help with the identification of key stakeholders for several reasons, including the completion of the project, the risk reduction, among others.

The terminology or definition of salience varies according to different interpretations, context and authors, similar to the different definitions of stakeholders -as presented previously in this chapter. Authors like Angle *et al*. (1999), Friedman and Miles (2006), Aapaoja and Haapasalo (2014), Aaltonen *et al.* (2010), Majava (2014), Kinnunen *et al.* (2014 b), among others, referred to stakeholder salience as the importance or authority which the stakeholders have regarding some project or directly related to the company, as well as, how the stakeholders claims are processed by the management and how much attention the stakeholders received. Kinnunen *et al.* (2014 b), pointed out that salience is considered to be a dynamic characteristic among the stakeholders, and it can vary by different factors. Yet, the most used and the most significant definition is the one explained by Mitchell *et al.* (1997). These authors defined stakeholder salience as *"the degree to which managers give priority to competing stakeholder claims"* focusing primarily to identify and classify the most relevant stakeholders from a group and noticing which of them required the most attention of them all.

Mitchell *et al.* (1997), explained that there is a need to identify the different attributes that relates to the stakeholders and their natural importance in the company and in the different projects. The authors suggested a division or classification according to three main attributes which are power, legitimacy and urgency. They explained that stakeholders need i) Power, to be able to influence to the companies; ii) Legitimacy, of the relationships between the companies and the stakeholders and iii) Urgency, which is the need to address the stakeholder claims. The salience will be determined according to the number of attributes present in each of the stakeholders.

The stakeholder salience framework has been used by different authors to identify the different capabilities and strengths of the stakeholders in different processes, stages and activities. In *figure 15*, it is possible to see the different attributes of the salience as explained by Mitchell *et al*. (1997), which is the basis to understand the different stakeholders' salience and an important part of the framework for this study.

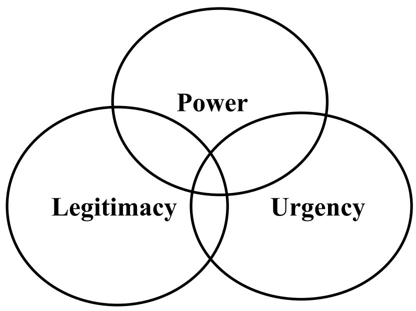

Figure 15. *Salience Attributes Framework (Modified from Mitchell et al. 1997).*

The salience of a stakeholder could have a large impact in the activities of a PM and in the company's activities. Kinnunen *et al*. (2014 b), addressed this matter by explaining that product managers have a key role of identifying the stakeholder's salience within their normal activities and not performing this identification could influence negatively the overall results of the companies.

Similarly, Aaltonen *et al.* (2010), suggested that the stakeholder attributes may have a degree of influence in the product (or project) management decision making process. This can be translated into higher costs of production, market risks, cancellation of contracts, fines, among other significant impacts that are a result of ignoring the salience of a stakeholder. Mitchell *et al.* (1997), added that managers should not pay attention to a specific type of stakeholder, but they should focus instead their attention for those who have a higher degree of salience.

According to the authors, and to the means of this research study, stakeholder salience is considered to have the presence of one or all of these three attributes: power, legitimacy and urgency.

Power

In order to understand what the reasons under the decisions are of stating that a stakeholder is considered to have power is fundamental to understand the nature of it. Mitchell *et al.* (1997), explained the meaning of stakeholder power, from the Weberian thought, where it is defined as *"the probability that one actor within a social relationship would be in a position to carry out his own will despite resistance"*. This thought is extended to the understanding that a person, social actor, entity or stakeholder A, can infer in a person, entity or stakeholder B to do something that the person, social actor, entity or stakeholder B would not otherwise performed (Aapaoja and Haapasalo 2014 b; Kinnunen *et al*. 2014; Aaltonen *et al.* 2010; Mitchell *et al.* 1997). Etzioni (1964), explained a categorization of power that enhances Mitchel *et al.* (1997) description of power, which states that power is based on three factors: i) Coercive power, which is based on physical resources of force, violence or restraint; ii) Utilitarian power, which is based on material or financial resources and, iii) Normative power, which is based on symbolic resources.

The definition of power have been seen and explained by the different authors: Friedman and Miles (2006), Aaltonen *et al.* (2010), Kinnunen *et al.* (2014 b), Aapaoja and Haapasalo (2014), among others, from the point of view of project management, product management, product development and other related subjects where the usage of stakeholder identification is required. Moreover, *Frooman (1999)*, added that *"power is structurally determined in the sense that the nature of the relationship- that is who is dependent on whom and how much- determines who has power"*. This author aimed to explained that the power is behold by the person, entity or stakeholder who is not dependent on the relationship. Yet, power can be used in both in positive outcomes or used in disadvantaged situations or circumstances of other stakeholders leading to a certain degree of "damage" which is a consequence of being ignored by management.

Legitimacy

Legitimacy has been explained by the different scholars over the years and yet, it has not been adequately defined. Mitchell *et al.* (1997) based their definition of legitimacy by adopting the definition proposed originally by *Suchman (1995)*, as the following: *"a generalized perception or assumption that the action of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions"*. These authors aimed to explain that not only the relationships among stakeholders and managers/corporations are official or law driven but can be- or should be- considered to be a social/ethical natural response for legitimate claims.

Different authors like Friedman and Miles (2006), Wartick (1994), Clarkson *et al.* (1994), Aaltonen *et al.* (2010), Kinnunen *et al.* (2014 b), among others, explained that the relationship between the stakeholders and the managerial are bound to be within contractual or legal status or means where the legitimacy is clear yet is not always the case. Under this perspective of legitimacy, is more probable that the managers give attention to the stakeholders which have legitimate claims. Yet, legitimacy itself is not sufficient to make the managers appoint salience onto them. They are bound to have the power attribute to gain salience with management and be able to have a legitimate claim.

Urgency

The last attribute of the *Mitchell et al. (1997)* salience framework is urgency. The authors described urgency as *"the degree to which stakeholder claims call for immediate attention"*. According to the authors, urgency also contains two attributes: i) *"Time sensitivity, which refers to the degree to which managerial delay in attending to the claim or relationship is unacceptable to the stakeholder" and ii) Critically, which refers to the importance of the claim or the relationship to the stakeholder"*.

Urgency advocates a correct or false understanding of a claim from the point of view of the stakeholders, management and/or the company. *Kinnunen et al. (2014 b)*, explained that *"urgency can be understood as an interest of the stakeholder"* since, naturally, the stakeholder’s claims will be requested as urgent to be able to call the attention of the management.

Adding to this view, *Aaltonen et al. (2010)*, pointed out that *“the claims that are aligned with the project’s goals and are easy to implement are more likely to be implemented or considered urgent”*. Furthermore, urgency is understood to set the grounds for dynamic relationships among stakeholders and their salience. This is in accordance with the different interactions with the other attributes (power and legitimacy) and all of the attributes together with urgency, *“triggers acknowledgment and action between stakeholders and managers” as explained by Mitchell et al. (1997).*

The attributes defined by Mitchell *et al.* (1997), have also been expanded to the other stakeholder classes or typologies that will be explained in the following part of this chapter.

2.2.2.2 Stakeholder Typology

Mitchell *et al.* (1997), defined a stakeholder identification framework were three main attributes were considered to be essential to process or to validate the different stakeholder claims which were power, legitimacy and urgency. As explained in the previous section, the identification of one of these attributes in the stakeholders could have some relevance to the management who is performing the evaluation of their salience yet if the stakeholders possess two or more of the attributes their salience is significant and very relevant to the management. However, this allocation of salience in a stakeholder is just merely transitory which implies the possibility of salience change within the project or process that is evaluated.

Furthermore, Mitchell *et al.* (1997) expanded these three attributes into subcategories or classes which are: i) Latent stakeholders; ii) Expectant stakeholders and iii) Definitive stakeholders. In *figure 16*, the stakeholder typology is shown.

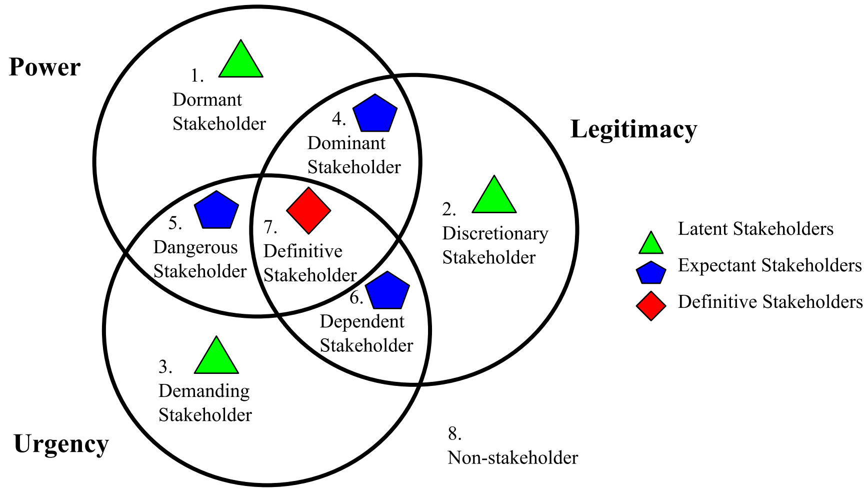

Figure 16. *Stakeholder Typology (Modified from Mitchell et al. 1997).*

Latent stakeholders

This group of stakeholders possess only one attribute and they are not outstanding in salience to the eyes of the managerial team since they acknowledge the presence of some salience but is not considered urgent to deal with it. This category has three classes, according to Mitchell *et al.* (1997):

1) *Dormant stakeholders* possess power to impose their will on a company, but they do not have a legitimate relationship or urgent claim.
2) *Discretionary stakeholders* possess the attribute of legitimacy, but they have no power to influence the firm nor urgent claims.
3) *Demanding stakeholders* possess an urgent claim, but they do not possess power or legitimacy.

Expectant stakeholders

This group of stakeholders possess two of the three attributes which gives them a moderate salience and an active attitude in the eyes of the management and for this reason, they are viewed as to be "expecting something", as Mitchell *et al.* (1997) explained. This category has three classes, according to Mitchell *et al.* (1997):

4) *Dominant stakeholders*, they have power and legitimacy, and their influence is assured in the company. Their claims are heard by the management due to their legitimacy upon the companies.

5) *Dangerous stakeholders*, they possess power and urgency, yet they lack legitimacy. This class of stakeholder can be coercive and possibly violent.
6) *Dependent stakeholders*, they have urgency and legitimacy, but they lack power. These stakeholders depend on other stakeholders to provide the power needed to carry out their will.

Definitive stakeholders

This group of stakeholders have the three attributes which give them recognition to attend their claims and be stated as urgent. The management normally assess their matters as a priority. This category only one class, according to Mitchell *et al.* (1997):

7) *Definitive stakeholders*, they possess power, legitimacy and urgency and they belong to the companies' dominant coalition. When this stakeholder claims are set as urgent the management give them the priority to process such claims.

The last category according to Mitchell *et al.* (1997) is the following:

8) *Non-stakeholder,* this is with reference to the fact that such stakeholder lack of any of the aforementioned attributes (power, urgency or legitimacy) in comparison with the other stakeholders.

For this reason, this category is not considered as a valid stakeholder for the company or the project yet, it has a relevant significance in this framework where all the stakeholders need to be identified.

This stakeholder identification framework is a subdivision of the stakeholder attributes - discussed previously in this chapter- and have as an end result a very specific mapping of the different stakeholders according to their salience. In *table 1*, the summary of the stakeholder classification is presented.

Table 1. *Stakeholder classification (Modified from Aapaoja and Haapasalo 2014).*

Stakeholder classes	Stakeholder typology	Salience attributes
Latent stakeholders *"Low salience"*	*Dormant stakeholders*	P (power)
	Discretionary stakeholders	L (legitimacy)
	Demanding stakeholders	U (urgency)
Expectant stakeholders *"Moderate salience"*	*Dominant stakeholders*	P, L
	Dangerous stakeholders	P, U
	Dependent stakeholders	L, U
Definitive stakeholders *"High salience"*	*Definitive stakeholders*	P, L, U
Non salient stakeholders *"No salience"*	*Non stakeholders*	-

Mitchell *et al.* (1997) work have been used in different researches and projects as a framework of stakeholder identification. Authors like Kinnunen *et al.* (2014 b), Aapaoja and Haapasalo (2014), Aaltonen *et al.* (2008), Aaltonen *et al.* (2010), Friedman and Miles (2006), among others, have exemplified in areas like construction, project management, product development and product management, among others, where this framework have been put into practice with significant results regarding the identification and classification of the different stakeholders and their salience relevant for each study.

In the matters of this study, the initial framework of the identification of the three main attributes will be in use yet the latter typology of the stakeholders will remain as theory.

2.2.2.3 Stakeholder Classification

The various stakeholder management literature that has emerged over the years contains a vast list of classifications and frameworks to identify the different stakeholders in a company, organization or project. The initial identification process consisted of the analysis of the veracity of the connection between the organization and the stakeholder which shows the validity of the relationship and the (stakeholder) claims. Within the years, a clearer spectrum to validate the structure of stakeholder identification and classification emerged and that is the separation of the internal and external stakeholders' structure. *Aapaoja and Haapasalo (2014)* explained that "*it is the most typical approach to divide the stakeholders (into internal and external)"*. Similarly, *Aaltonen et al. (2010)*, mentioned that *"it is a typical division to group project stakeholders into internal and external stakeholders"*. Moreover, this structure is well known and has been in use in different theories and analysis of the stakeholders due to its practical approach for classification and its simplicity.

Stakeholder classification is embedded as part of the stakeholder management and it arises as a need to identify who really matters and as a way to establish the relevant stakeholders in the organization. The term "social responsibility" was used to refer to stakeholders that were not part of the firm in terms of economic or contractual matters and was a widely used term among scholars and theorists for several years. *Savage et al. (1991)*, explained that *"stakeholder management seeks explicit management of stakeholders who may be internal, external or interface with an organization"*. The authors explained that stakeholder management should not only pay attention to the internal stakeholders and their related positive or negative issues but also there is a need for the management to pay attention to the external stakeholders since they can also affect the organization.

Freeman (1984), was one of the first authors who referred to the terms internal and external stakeholders. He set the first attempt to identify and classify the stakeholders under this perspective, yet his definitions were broad focusing mainly on the firm or company point of view and narrowing the scope of the external stakeholders.

Internal or primary stakeholders

The way that internal stakeholders are defined is based on the fact that such stakeholders belong or are part of the organization and, hence, the term "internal". Several authors have explained under different contexts, industries and backgrounds the right definition of this category of stakeholders, yet the term is broad and can be used in a small number of stakeholders or larger groups. Freeman (1984), is one of the authors whose work has been used as a framework to create new theories and definitions that have been in constant change.

Freeman (1984), defined internal stakeholders as the *"groups that we are used to dealing with on a daily basis"*. He exemplified with a list that includes *"customers, employees, unions, stockholders and suppliers"*. These examples of internal stakeholders the author presented have changed over the years and many are considered now as external stakeholders. In addition, Winch (2004), Aaltonen *et al.* (2010), Aapaoja and Haapasalo (2014) defined the internal stakeholders from the point of view of project management where they explained that internal stakeholders *"are formally members of the project coalition, resource controllers and usually in support of the project"*. Moreover, *Atkin and Skitmore (2008)*, explained that *"internal stakeholders are those directly involved in an organization's decision-making process"*. Furthermore, *Savage et al. (1991)*, defined internal or primary stakeholders as *"those who have formal, official or contractual relationships and have a direct and necessary economic impact upon the organization"*.

To the extent of this study, internal stakeholders are those who have a legitimate relationship with the company and can affect the decisions of the management team.

External or secondary stakeholders

The literature of stakeholder management and stakeholder theory explained several facts about the importance of the classification and identification of the stakeholders in different groups. The external stakeholders have been considered secondary based on their nature yet, they have a crucial role in the companies and can impact greatly, in both positive and negative ways, the overall results of a project, process or the regular functions of a company. Authors like *Savage et al. (1991),* explained that *"external or secondary stakeholders are diverse and include those who are not directly engaged in the organization's economic activities but are able to exert influence or are affected by the organization"*. The author's definition indicates that this group of stakeholders seem to be very passive yet can have natural power and legitimacy in their claims.

Atkin and Skitmore (2008), explained that *"the external stakeholders are those affected by the organization's activities in a significant way"*. Similarly, Aaltonen *et al.* (2010), Aapaoja and Haapasalo (2014), among others, mentioned from the project management point of view, that *"external stakeholders are not formal members of the project coalition, but may affect or be affected by the project"* and *"they can be considered informal members of the project and have no direct control over a resource"*.

For this research study, the external stakeholders are those who are not included in the organization decision making yet they have a valid relationship with the organization, and they can affect or be affected by the actions of the company or project.

2.3 Synthesis of the Literature Review

In recent years, companies have focused on the expansion of their activities and their bundle of products and services, and the reason for this, is not only to reach value maximization and profitability but also to satisfy customer needs, enhance their market shares and to generate innovative solutions and products. The different products and services, which are constantly evolving, require the attention of the product management who is in charge of the different processes that encompass the managing of times, schedules, design, production, promotion, delivery and managerial obligations, among other relevant activities. Hence, the role of a PM is considered to be pivotal and it requires knowledge on different fields as marketing, finance, economics, engineering, among others.

The allocation of a PM, which is considered a key stakeholder, in a company aims to balance the internal operations, capabilities and resources. Within this task the identification, classification and management of the different stakeholders in the company and in the projects. As a result, the PM will be able to improve the decision-making process in a company and learn how to minimize risks.

The PM has different approaches, tools and processes which enhance the decision-making process. One of these tools is the product management lifecycle model and with its usage, the PM has an overview of the product, stages or phases, critical paths from idea creation to the completion of the product lifecycle. As part of the main activities performed by the PMs, NPD is one of the most significant which leads to innovative solutions that expand the bundle of products or services in a company as part of the product lifecycle.

Similarly, the advantage of having a PM in the organization is that he or she possess capabilities to manage a single product or a product portfolio. PPM provide to the PM a competitive advantage related to the accomplishment of the company’s goals and the value maximization of all the products. PPM focus on tactical and strategic approaches of resource allocation and promotes an informed decision making. Within the PPM process, different improvements are made by the PM like the regular removal of products in the portfolio which promote a healthier stream of products over the NPD, maintain, warranty and archive phases over the product lifecycle as explained by Tolonen (2016).

The PM also identifies the stakeholders in the company or in the projects, as part of the strategic management in the company. The understanding and recognition of stakeholders is highly underestimated, and the early identification of the stakeholders not only provide value to the company but also to the network, the supply chain and decreases the incurrence of certain risks.

The managers, including the PM, are expected to naturally address matters related to the stakeholders which comprise from communication, understanding their functions within the company to interactions and recognition of their salience and claims. The process where managers attends stakeholder related issues is through the stakeholder management approach, which is the process of identification, classification and handling of stakeholder's matters. The stakeholder management approach also includes the implementation of policies and processes that encompasses all the referent to stakeholder interests, goals and claims which enables communication and connection between the companies, managers and stakeholders.

Furthermore, stakeholder theory has a significant relevance on the way PMs perform their decision making which requires to be embedded in the company's knowhow but also on the multiple perspectives of the internal and external stakeholders. The different stakeholder theories -descriptive, instrumental and normative- aimed to explain different perspectives that have been studied and researched over the years. This helps to understand the managerial behavior with stakeholders and organizations in different scenarios: natural, mandatory or simply contractual. The managers, especially the PMs, who understand the basis of stakeholder theory, have a larger scope on how to handle and process stakeholders claims and their interactive role within the company. Each company faces a unique set of stakeholders and with it, a different degree of stakeholder influence. The stakeholder theory promotes an ethical practice regarding stakeholder matters and the reduction of risks induced by the disregard of certain groups of stakeholders and their saliences.

Stakeholder salience is the degree of importance that a stakeholder obtains over a phase of a project or directly from a company. The managers give priority (or not) according to the degree of salience. There are several approaches and theories on how to analyze stakeholder's salience yet we followed the one based on the attributes of power, legitimacy and urgency as explained by Mitchell *et al.* (1997), Kinnunen *et al*. (2014), Aapaoja and Haapasalo (2014 b), Aaltonen *et al.* (2010) and Kinnunen (2016). According to these authors, power is coercive, utilitarian and normative. The usage of power can be both positive or negative and depending on several factors that can influence its change. Legitimacy is the contractual or legal responsibility of the organization towards the stakeholder. The management is bound to pay attention to stakeholder claims in this group only if the stakeholders possess another attribute (power or urgency). Urgency is the call for immediate attention tied up to time sensitivity and criticality of the claim. The different mix of the aforementioned attributes create different degrees of salience and relevance to the management to attend their claims.

In addition to measuring the salience of stakeholders, PMs classify them in two basic groupings: internal stakeholders, who are part of or directly related to the organization and the external stakeholders, who are not directly related to the economical activities of the organization. This classification is done after the verification of the relationship with the stakeholders to validate their claims.

PMs should focus on the capabilities of the company, the implementation of the different systems and tools in their normal activities and the identification and classification of the different stakeholders in the company.

3 EMPIRICAL RESEARCH

3.1 Research Method

The empirical research of this study was conducted by a qualitative method which aims to identify the different stakeholders present in Product Management activities in the case companies. This chapter describes the process of the research method and the collection of data from the case companies.

3.1.1 Data Collection

The methodology chosen for the empirical research was selected in order to help unveiling the interviewees expertise and knowledge of product management in their respective roles in the companies. The qualitative method chosen for this study was the interview through a questionnaire, that is exploratory in nature, and help to interact with the interviewees and their knowledge in Product Management and the different stakeholders present in their regular activities.

The interviewees were selected from different industry sectors of Information and Communication Technology (ICT). The interviewees come from different size companies which helps to avoid any possible bias that can contribute to misunderstanding or similar results at the end of this study. The interviewees were PMs and/or people in similar positions which had experience in their roles and with stakeholders.

The total number of companies interviewed for this study were seven and the number of people interviewed were thirteen in total. The approximate length of each interview session was 60 minutes yet in some cases the time span was as short as 30 minutes and as long as 120 minutes which vary according to the PMs' schedule. The interviews were recorded and transcribed to validate the reliability of the data collected and the analysis performed. The interviews took place from June to August 2018. In *table 2*, the interviews and interviewees are presented.

Table 2. *Interview participants and number of sessions of the interviewees.*

Company	Interviewees	Role in the company	Interviews
A	2	*Product Managers*	1
B	1	*Leader of Product Management*	1
C	1	*Product Manager*	1
D	3	*Product Manager, Product Lifecycle Manager and Program Manager*	1
E	2	*Portfolio Manager and Product Development Manager*	1
F	3	*Product Managers*	1
G	1	*Director of Business Unit*	1

The majority of the interviews were done in personal meetings, however, some of them were done via teleconference since the companies and the interviewees were in a different geographical location. The interviews were performed by the same interviewer with the usage of the same questionnaire and were conducted in a formal approach allowing the interviewees to explain in their own views and experiences in different subjects matter of this research.

3.1.2 Questionnaire

The qualitative study was performed with an interview of 60 minutes on average, where the different interviewees were asked a set of 22 questions (appendix 1) in total. The questionnaire contained the basic definitions that are relevant for this study, which comprehend stakeholder management, stakeholder classification, stakeholder salience and product management.

The questionnaire was divided into two subjects: product management and stakeholders of product management. Each set of questions were asked in order to identify the stakeholders in their companies and to understand the role of the product manager in daily activities. The interviewees had the questionnaire in advance to familiarize with the subject of this study and the basic definitions.

3.1.3 Case Companies

The case companies were selected from different industry sectors in Finland from which some of them have international operations. The sizes of the companies that have taken part in this research are small and medium sized enterprises (SME) and large companies. The difference of the sizes of the companies create a great opportunity to identify the most common stakeholders present in the activities of a PM in the different sectors of the industry and also help to reduce bias in the results of this study. Many of the case companies are multinationals but the study focuses on their practices in Finland and thus, the reason why on this research it refers to the analysis of Finnish case companies.

The case companies and their PMs -or people in the similar position- were very eager to cooperate with the nature of this research and manifested their high interest in the topic and scope of the research. The case companies interviewed were seven in total. For this study, the names of the companies will not be disclosed due to confidentiality agreements. An overview of the case companies is presented in *table 3.*

Table 3. *Case Companies Overview.*

Company	Company size	Products
A	*Medium*	*Services, solutions and HW*
B	*Small*	*Services, solutions and HW*
C	*Small*	*Solutions and HW*
D	*Medium*	*Services and HW*
E	*Medium*	*Services and solutions*
F	*Large*	*Solutions, services and HW*
G	*Small*	*Services*

Case Company A

The Company A is a Finnish company that is located in Oulu which provide products and services in the sector of technology and telecommunications. They specialize in the development of secure communications and connectivity solutions. The company is one of the leaders in their sector and have over 30 years of experience. They also have customized solutions and more possibilities to extend their bundle of products with R&D

services. The company's success has led them to innovate on the healthcare sector by providing technology solutions in different areas. The company A is listed on the Nasdaq Helsinki.

Case Company B

The Company B is a Finnish company which provides products and services in the sector of technology. They specialize in the development of solutions for different fields like security, industrial and medical. The company have helped with their customized solutions -and through their customers- to millions of people around the world. Their worldwide success is the result of excellent competences and over 25 years of experience. The company B is listed on the Nasdaq First North.

Case Company C

The Company C is a Finnish company headquartered in Oulu, which provides products in the sector of technology. They specialize in the development of solutions for the field of security and their products offer simplified solutions for other industries in their daily operations. The company has over 15 years of experience in the market and had been granted awards and certifications. The company and their products aim to reduce the environmental impact. The Company C is evaluating to list on Nasdaq Helsinki.

Case Company D

The Company D is a Finnish company headquartered in Oulu which provides products and services in the sector of technology. Their products and services provide technological innovation to their customers in the fields of medical and sports/fitness. The company has over 40 years of experience in the market. This company has a worldwide network which make its products well-known. The Company D is a private company and is not listed in the stock markets.

Case Company E

The Company E is a Finnish company headquartered in Helsinki, which provides products and services in the sector of technology and telecommunications. These products and services reach a large number of customers in Finland and other geographical locations where they operate. They are currently the market leaders in the telecommunication sector and have been evolving for over 135 years with innovative solutions and technologies. The company E, is listed on the Nasdaq Helsinki Large Cap.

Case Company F

The Company F is a Danish company with operations around the world and in Finland have operations in three cities. The company provides products and services in the sector of technology, automotive, industry, food and beverage, energy and natural resources, among others. The company has different kinds of products which adapts to the requirements of the sector they belong as well as their customers. They have been in the market for over 85 years. They keep on innovating and adapting to the current changes in technology which validates their compromise to create a sustainable world. The Company F is listed on the New York Stock Exchange.

Case Company G

The Company G is a Finnish company headquartered in Oulu, which provide products and services in the sector of technology and health care. Their products and services provide innovative solutions in the medical and wellbeing field. Their operational model looks to involve small counties and provide quality services. The company has over 30 years of experience in the market and keep on innovating solutions to the different fields and sectors and to their different customers. The Company G is not listed on the stock markets.

3.2 Analysis of the Research

The analysis of this study aims to identify and classify the different stakeholders present in the Finnish industry. Within this research, seven case companies were analyzed and the answers of the different PMs -or people in similar position- that were interviewed have been processed to identify the stakeholders and to define the heuristic role of the PM which belong to different backgrounds of ICT and services.

This research gives a clearer understanding of the stakeholders in the product management activities in Finnish companies which have not been addressed in previous research. The interviewees viewpoint, experience and years working in the companies -

and different industries- provided a unique understanding of the stakeholders and the role of PMs.

The stakeholder identification has been a very intriguing task for many of the interviewees since they have not questioned themselves about the accountability and the importance of the stakeholders in their normal activities. In the researched industries, the number of stakeholders might increase or decrease due to the nature of the company or to the size. The variety of sizes of the case companies was used as a great opportunity to evaluate the different stakeholders and if they present their salience to the management.

This study will analyze the stakeholder identification, the classification of internal and external stakeholders and the role of PMs in the case companies.

3.2.1 Stakeholder Identification and Classification

In this section, the stakeholders are identified and classified into groups of internal and external stakeholders in relation to the activities of each of the case company and the answers from the interviewees.

Case Company A

The product development of the company is under the responsibility and supervision of the PMs who are participating from the initial phases through the lifecycle of the project and the product. The PM prepares different meetings for subjects regarding the ideation of a new project, product/project implementation, definition of key features and third parties that will be involved in the short and long term.

The company's stakeholders are identified based on a direct relationship with the company and/or with a project whether they are part of the company or third parties. The identification of the stakeholders is part of the standard process of the project implementation and identification of the team members wherein they also set the goals and milestones of the project or known as "the milestone check" which is performed during the initial phase of the project through the product lifecycle. The allocated PM is in charge that the milestones are set, reviewed and agreed (for the upcoming ones) following the specifications granted by the company. These milestones checkpoints and reviews have a great significance to the project, to the management, to other business areas in the company and to the stakeholders.

In the revision of a phase or milestone, they identify the stakeholders that are present and actively participating. The PM needs to select the stakeholders that will be participating in a specific time lapse of a project and whose work will be accounted in the project's total costs beside other related costs of the product e.g. hardware (HW). The stakeholders are selected or requested to join a project based on its complexity and for that reason, they need to be experienced, committed and have to be available at the time of the selection or latest at the beginning of the new project or phase. In case the company lacks a stakeholder that fit in the required profile they contact Human Resources who checks the current resource's pool and proceeds from there to find a candidate or recruit a new one.

The stakeholder classification and the identification performed by the PM is divided into internal and external stakeholders. In this company this process is done informally and based on the experience of the PM who acknowledge them as a "*network*". In the case of the internal stakeholders, the company's PMs identified them as those stakeholders who are part of the company's business activities and relationships, e.g. personnel working in the company from the different business units. The internal stakeholders of the company include: the management and upper management that are relevant for the decision making process, product marketing which create awareness of the product and differentiates the demand, operational department, R&D, business lead, sales, financial department that is used in certain phases, marketing and communication which handles the media, product management, HR, legal department that are considered to review agreements, after sales to monitor the customer feedback and products, among others.

For external stakeholders, the PM identified them as those who are connected indirectly to the company's activities. These stakeholders present a higher degree of difficulty for the PM since the classification process is done informally. Some of the identified stakeholders are the customer, development partners, trustee/manufacturers, competitors, advertising companies, among others. In both of the stakeholders, it is possible to identify who have a main role and who have a support role in the project or in the company. The PMs keep constant communication with stakeholders according to the relevance for the phase or project.

The salience of the stakeholders in this company is not measured formally yet some basic identification is done based on the experience of the PM who identified which stakeholders require more attention in critical paths of the milestones or the projects. The internal and external stakeholders provide to the company, and to the product management activities, features that help to improve the outcome of the project, the product lifecycle and decision making. The interviewed PMs added that *"without the recognition of the stakeholders they would face more challenges and higher risks"*.

Case Company B

The company's stakeholders are identified based on direct connection with the company, process or project. The PM leads the identification process in this company through the milestone review and/or checkpoints that consists of a series of meetings for planning, changing or reviewing milestones of a project. The stakeholder identification and selection happen within the developing phase, pre-production, production, ramp-up and project portfolio review. In the milestone review, the PM has a mapping process of the different stakeholders which are selected to participate in the different phases of the project. The PM also defines who is the product owner (normally is the PM), which processes will be used, perform a minor risks assessment, milestones setting, interface, integration process, among others.

The identification of the stakeholders is executed in the milestone checkpoints, planning and other important lifecycle phases. This process is challenging, particularly at the beginning of the project but once the project is ongoing the PMs have a better visibility on which stakeholders they need to take into account. The PM performs a stakeholder classification process in which the internal and external stakeholders are identified to participate in the different phases of the project. The PM identified as internal stakeholders the active members of the company from the different business units including the upper management. Internal stakeholders are considered *"part of the team*" and they focus on their capabilities and capacities addressing higher importance to the PM. The internal stakeholders in this company are the engineers, the PM, sourcing manager, PLM, upper management: CEO, vice president, PM leader, among others. Each of these stakeholders have relevance in different stages of the project yet the upper management has an important role in the decision-making process.

The external stakeholders are considered as those who have relations with the company but are not part of it. The external stakeholder identification has more challenge since they can vary from phase to phase in a project. Neither the company nor the PM has a proper identification process for these stakeholders and it's currently done based on the PM experience. Some of the relevant stakeholders in this group are the customers, the supply chain, suppliers, manufacturers, investors, competitors, among others. The selection of the stakeholders is done according to the business unit they belong and how active they will be in the different phases or stages of the product development. The salience of stakeholders is measured based on experiences and not systematically. The stakeholders present *"their own importance at their own time"* and that's when least expected.

Case Company C

The company's stakeholders are identified based on a connection with the company, a project or a product. The identification of the stakeholders in this company is performed in the initial project meeting and in the monthly meetings related to the milestone's revision and project discussions which are at different phases of the product lifecycle. The person responsible for identifying and selecting the stakeholders is the PM of the business area where the project is going to take place but the critical moment to identify stakeholders is when the product reaches the operational level, yet the stakeholders are pre-selected since the initial phases.

The internal stakeholders are identified as the people who work in the different departments or business units. These stakeholders are selected according to their strengths, capabilities, experience and are required to be selected as early as possible due to resource limitations. Some of the most relevant internal stakeholders in this company are marketing department, controlling department, sales department, development department, legal department (after the second stage of the project), manufacturing, PM, legal department, upper management (CEO, VPs, management board), among others. The relevance of the internal stakeholders is that some have influence in the decision making in the company (in the projects, gates, milestones), some have relevance to the ideation process, yet all have different views and knowledge. The company has a direct approach with the internal stakeholders and constant communication through calls, meetings and video conferences. The PM acknowledged the great importance of this group of stakeholders for the projects and to the company in general and added that they have a *"connectivity role"*.

The external stakeholders are a group that is harder to identify and analyze. The PM encountered *"a big challenge"* to identified them. The ones that were recognized are the customers, marketing (related to media), government, regulators, competitors, among others. The company does not have a standard process of stakeholder identification or classification. The PM remarked that the company neither identifies formally the stakeholder's salience. The salience of the stakeholders is based on experiences of the PM (or management). The interviewed PM added that *"the stakeholder identification improves the PM functions and avoids problems"* hence, they need to monitor certain groups of stakeholders to identify any plausible risk or problem.

Case Company D

The company's stakeholders are identified as the ones who are part of the company and who have ties regarding a project or directly to the company. The PM is in charge of identifying the stakeholders at the meetings in the initial phases (milestone 0) of the project through the lifecycle of the product or until reaching a specific point/phase. PMs are constantly changing and or adding new stakeholders in each new phase/stage or milestone checkpoint yet the PM, among other managers, have a high expectation that the stakeholder will commit for the duration of the project or phase from the initial selection.

The PM classifies the stakeholders into the internal and external groups. The PMs in the company identified as the internal stakeholders the people who work in the company and who are important for the processes and phases. The selection process of the internal stakeholders working on a project is done and consulted in advance due to their availability, knowledge, experience and commitment to multiple projects which also is influenced by the project and the business unit stakeholders belong. Some of the recognized stakeholders are the engineers, R&D, marketing unit, sales, logistics, research unit, manufacturing, HR and upper management (CEO, PM, line manager). The upper management decide the go-no-go status of a project from milestone 0 onwards, they approve (or reject) the release of resources, and for this reason PMs paid more attention to them. The PMs keep constant communication with their group of stakeholders based on the business unit they belong.

The external stakeholders are recognized as the ones that have some degree of commitment with the company, yet they do not work in it. The external stakeholders are harder to recognize to the PMs since they are not as clear as the internal ones. Yet, the ones identified were the customer, suppliers, distributors, subsidiaries among others. The identification of the stakeholders is not made following a structural or formal procedure since the company does not have an actual process to identify or select stakeholders but based on the PMs experiences. Similarly, the company neither have a salience assessment for internal and external stakeholders still the PMs can recognize some salience in key stakeholders among the different phases of the product development and product lifecycle. Both the internal and external stakeholders provide positive -and negative- features to the projects and the company according to the PMs.

Case Company E

The company identified their stakeholders as the ones who are part of the company and have a relationship or are part of a project. The company recognizes their stakeholders when starting a new project or product ideation process and it will repeat through the different phases of product lifecycle. The process of identification and selection is performed by the PM, development manager or business unit manager according to the project type and the experience required to identify the stakeholders in a project and is normally carried out during the early phases of NPD but with emphasis on the ideation, development and launch phase.

After the initial identification process, the PM classifies the stakeholders into internal and external which are the ones that will be participating in the project. The internal stakeholders are considered as the ones that work directly to the company from the different business units. The stakeholders of product management can be divided into three groups: business, development or technical and process stakeholders. Among the business stakeholders can be identified the business manager, business line director, PM, and sales. In the technical stakeholders can be found the product development team (engineers, developers), technical PM, production unit, among others. And lastly, in the process stakeholders can be found delivery, billing, maintenance, and others. The stakeholders which have more relevance on the decision making is the upper management force (e.g. development, business and technical management). Some of these internal stakeholders are part of the steering teams or from the same group or unit.

The external stakeholder identification for the PM is harder than it seems and is difficult to separate from the internal stakeholders -in some cases- because they are embedded in different levels of the process which goes end-to-end, and it cannot be prioritized because they are both important. The clearly recognized external stakeholders are the customers, suppliers, partners, regulators, government, among others. Some of the stakeholders of this group cannot be ignored and required more attention in different projects and phases.

The salience of the stakeholders is not assessed fully in this company. Salience is not considered as an urgent capability but is important to considerate it in certain projects and for this reason, is done as a supplementary task when analyzing the input and output of the stakeholders based on the PMs assessment of the stakeholders (milestones checks, projects reviews, steering groups) and based on personal experiences to allocate the importance and/or priority. Internal and external stakeholders are a continual source of information for the company in matters related to the company's products. For this reason, the company has a structure that examine some of the stakeholders, after they have been preliminary selected and identified, according to their responsibilities and accountabilities based on the input and output provided at a specific time or phase. This helps to develop a faster process of stakeholder identification in this company.

Case Company F

This company identified stakeholders as those who have an actual relationship with the company and are involved in a project. The PM of each business unit identifies the stakeholders within the initial establishment of a project, development phases and milestones checkpoints. The selection of stakeholders takes place in the product review meetings, steering groups and checkpoints.

The PMs classify the stakeholders into internal or external groups informally since the company does not have a process specifically for stakeholder identification. In the case of the internal stakeholders, the PM recognized the people who work in the company and are involved in the daily operations of the company. The internal stakeholder communication is done frequently (daily, monthly, quarterly, yearly) depending on the stakeholder but is more usual with the key stakeholders where they discuss product related matters. Some of the identified internal stakeholders are sales department (they performed the sales and feedback from customers), R&D (developing new products), engineering, supply chain, PM, upper management (project manager, other business unit managers and others) who has control in decision making processes and approval of resources.

The external stakeholders are identified as the ones who have commitments with the company, but they are not actively part of it. The identification of the external stakeholders presents a challenge to the PMs. They are able to recognize this group of stakeholders based on their personal experience in the company and the industry. Some of the identified stakeholders are the customers, competitors, among others.

The salience of the stakeholder is a practice that is neither measured nor analyzed in this company. The minor salience assessment is done unofficially for the external stakeholders and based on their own assumptions but not in every occasion or project.

The interviewees mentioned that *"there is a big difference between who you pay attention the most and who you really need to be paying attention the most"* which clearly is a challenge. The stakeholders in the company have the *"support role"* for the product management activities and for this reason, the PMs keep regular communication not only to matters related to the milestones and phases but also to the discussion of other subjects and changes.

Case Company G

The company's stakeholders are identified as the ones who have a direct interaction and relationship with the company and their projects. The company provides services in a B2B approach. The identification process which is done by the PM or business unit manager starts at the initial phases of the lifecycle. The milestone meetings played a fundamental part of the stakeholder identification process as well as a decision and selection of the stakeholders because some of the stakeholders are reassured or left out of the project.

The stakeholder's identification is important for the company and involves third party contributors. The internal stakeholders for this company are the ones that have relevance for the company, and they are part of the operational part of the company. This type of stakeholders is selected in the milestone's reviews. As internal stakeholders, the PM identified IT, engineering, sales, marketing, HR, PM, project director or manager, CEO, board of directors, among others. The key stakeholders have a higher degree of attention and among them is the upper management which approve (or reject) the decisions. The internal stakeholders are considered to have a constant communication process with the PM.

In the case of the external stakeholders, they have a clearer perspective on who they are and how to identify (some of) them. This group of stakeholders are labeled as very important to the activities of the company since they provide a service (B2B). The identified stakeholders are the customers, consultants, software providers, supply chain, competitors, HW manufacturers, among others.

The company does not have an established process to identify their stakeholders nor their salience. The salience assessment is not officially performed to the stakeholders of this company. They recognize some salience in certain group of stakeholders and is based on their knowledge of the company and the market. The PM expressed that the company's stakeholders have the role of a *"connecting network"* and that the stakeholders *"added value to their processes"*.

3.2.2 The Role of a Product Manager

In this section, the PM activities and active role will be analyzed based on the answers from interviewees of the case companies.

Case Company A

Product Management activities comprise of different functions and obligations aligned with the company's strategy. The product management tasks involved the development of existing products and the creation of new ones according to specifications and requirements of their customers. Other relevant tasks are the business case creation, roadmapping, PM documentation, scheduling, product proposals/approvals, design acceptance, product retirement, among others.

PMs are involved in the creation of the projects and in all the different NPD phases and they are responsible of the milestone's implementation which are set in the early phases of NPD and followed with the EPP processes. They emphasized that their role is more active in the initial phases of the project because they are the ones who design and implement the structure of the milestones and the project is driven and built up by them.

The PMs are required to be embedded in the company knowhow and acknowledge the capabilities and strengths of their teams/units to be able to deliver a quality product. They also referred to the selection of the internal stakeholders in the milestone's review.

In this company, the PM is responsible for the product and its competitiveness where they need to implement and define the key product features. The PMs also analyze the competitors and their products so that the company create differentiated and unique products. The PMs have a direct involvement in the negotiations, price settings and cost structure of the company's products. They need to be aware first how much is the development cost of the product before they suggest a price. The PMs require to know who their customers are to provide customized solutions according to their needs.

The organization has a description of the responsibilities of the PM which have been documented in a guideline of standard procedures, processes and definitions that are requested to be followed to standardize the development and the product configuration but the interviewees mentioned that they also followed their *"instincts"* which are led by their experiences in the company and the industry. The PMs are also in charge of the roadmapping of the products which is a mandatory task as well as the revision of the targets of the new products for the upcoming year.

PMs in this company have been selected due to their special knowledge and experience in the industry. The interviewees have a long trajectory and success stories (30 years and 15 years, respectively) that resembles on how they operate in their current positions in the company, which is translated to leading successfully a product or managing the whole portfolio. They also implied that there is a need to keep learning new features and capabilities to cope with the market trends.

The PM tasks are extended to other business units and to the internal and external stakeholders. They recognized their involvement with stakeholders for different purposes like with the business leaders to review the marketing proposals of a product; (other) PMs to evaluate features and technologies; product marketing and marketing & communication to discuss the demand of the product and media releases; and with other relevant stakeholders like the operation department, sales department, R&D, financial department, HR, manufacturers, subcontractors and the upper management (CEO, board of directors, vice president) which decisions directly affects the outcome of the project.

Case Company B

In the case Company B, the PM functions are a sum of different activities and obligations performed on a daily basis or in a systematic schedule. The product management tasks are the development of the processes of the product lifecycle and the NPD, milestone creation and reviews, steering work, product structure, product review in the product lifecycle phases, product ramp-up, product marketing, product technical reviews, product roadmapping, product documentation, among others.

The PMs in this company embrace a series of activities around the product lifecycle and NPD. They need to provide the product's technical reviews and other activities related to the creation of a new product, update, configuration and product interface which is in a similar position to a Field Application Engineer (FAI). In the product interface, which relate to the customer, they need to identify the customer's requirements and translate them into specifications for product development. The interviewee mentioned that a PM is the link between the technicalities of a product and the customer relationships and the understanding of both it's what makes them to be called a PM.

PMs are responsible for both technical and commercial profitability which is aligned to the strategy of the company. The PMs look after a single product or the whole product portfolio. It is necessary to keep the communication and documentation in order not only to report to higher management but also to have a data structure that allows the mapping of the products and projects which comprises from the identification of stakeholders, processes and owners to risks, milestones, interfaces, integration process, inputs and outputs, among others. The PMs take care of their products continuously and that the product data is organized in the ERP or CRM systems that support their activities, beside the normal managerial activities with the product costing and pricing.

The PMs have interconnected activities with other functions or business units in the company and (internal and external) stakeholders. Some of the most relevant cross functional activities happen with the sales department, marketing, product engineering, product supply (supply chain), upper management, among others. They emphasized the need of the different stakeholders in their activities, but they added more importance to the management who infers directly in the decision making at the milestones and budget reviews/approvals.

Case Company C

The PMs in this company have different responsibilities and tasks that need to perform daily, weekly, monthly or in a longer period of time. The company is small, and the product management activities vary according to the availability, project types and the customer. The PM tasks involve production engineering, PDM, analysis of competitors, getting acquainted with new laws and regulations, new sales targets, incrementing sales representatives, business case, market analysis (new trends), product documentation, milestones and gates revision, product interface, among others. The PMs are present in the product development and product lifecycle phases as project leaders.

The interviewee mentioned that the active role of a PM is flexible and adaptable to diverse eventualities, backgrounds and customers. This is so because the PM in this company is versatile and can vary from having a technical approach to developing marketing related issues which make them be PMs with hands-on approach.

This company's PMs are also open to new product ideas, suggestions and improvements that are channeled through feedback from customers, potential customers, company's employees and other PMs. The PMs also contact other business units or stakeholders along their normal activities like the marketing department to assess the project configuration; the controlling department; the management board, the sales department, the development department, among others which have different view, knowledge and importance to the project. The PM addressed more importance to the management and upper management in the company and to their customers and governmental regulators outside the company.

Case Company D

The product management responsibilities in the company D vary according to the product category where the PMs are assigned to. In each of the projects, a team leader is selected among the PMs who will be responsible for the product portfolio. The PMs tasks are relevant for the value maximization which are aligned to the company's strategy.

The PMs participate actively in the product development which is followed from a guideline that encompasses from brainstorming to concepts that will follow the ideation process. The PMs are involved in activities of product lifecycle, NPD and product development which comprise of product ramp up and down, product performance monitoring, following customer care solutions, feedback from customers, technology and product roadmapping, sales forecasts and follow ups, reporting and monitoring of indexes, among others.

The PMs gather relevant information for decision making which after the evaluation of the product as saleable or not, will go through the final decision that comes from the upper management. In the product ramp up and ramp down phases they required to be in contact with other business units or teams and stakeholders from the company like the sales department, logistics department, development department and many more. Other business units or internal stakeholders are also contacted by the PM such as R&D, sales, manufacturing, marketing department, HR, finance, upper management, among others. The PMs communicate with many of these areas unofficially with exception of the upper management where decision making processes, milestone checkpoint or project review are evaluated through formal channels.

The PM also process feedback from their customers channeled from the customer care unit which is monitored and used as a feedback loop to improve and contemplate changes in their products. The PM make a proposal that inform to other PMs and upper management about the possibility of ramping down a product based on the product lifecycle phase, the success of the product and the product profitability, among other factors that may influence the decision. The PM and other business units in the company have different PDM processes and the PM keeps a product documentation in the company's guideline for the different processes which involved the PM activities.

Case Company E

Product management responsibilities and functions are extended from one product to the whole portfolio of products in the company. The PMs participate actively in the different phases of NPD which go through the idea/concept, development and launch phase of the product and through all phases of the product lifecycle.

The PMs are directly involved in activities like the commercialization of the product, product development, product pricing, product configuration, steering groups, and other activities related to the product profitability and sales like the analysis of the market, trends, and analysis of the competition. PMs in this company are responsible for the integration of the process, e.g. order, delivery, upgrade/update process among others. PMs responsibilities are directly associated with the transition from product development to actual production which also involves tasks such as product documentation, data management, data security, archiving among others.

PMs can also be responsible for the product portfolio and this company's approach is to modularize the portfolio and present block solutions in different phases e.g. in the implementation phase. The PMs can focus on specific tasks in the company such productization, technical implementations, engineering, development, among others.

The product management approach in this company has evolved from a technical approach (product features, configuration and others) to a commercial approach focused on the markets and the customers which give liberty to the PMs to have a hands-on approach on how they are going to develop and manage their product strategies. PMs have to allocate correctly the resources in early phases to be able to reach other phases under the same budget and hence, they are required to do product costing and pricing.

PM's activities are related to the profitability of the product and the creation of commercially viable and acceptable products and for this, the PMs needs to understand the customer requirements and create a valuable product. The PMs tasks and responsibilities are also cross functional since they require the usage of other business units like the sales department, finance department, HR, operations and the upper management who play a great role in the decision-making process of the projects and milestones checkpoints.

Case Company F

The product management activities are derived from the business units and the groups that are part of the company. The PMs tasks are a global function that comprise the understanding of one product or the entire product portfolio.

The PMs are actively participating in the different phases of product development and through all the product lifecycle processes (10 to 15 years). Some PMs are partially responsible for the company's strategy creation alongside other business unit's management. The product management in the company have responsibilities and tasks like product roadmapping, product documentation, idea generation, data management, front end solutions, product ramp up, product ramp down, product profitability (checkups), monitoring KPIs in daily activities, product owners, among others. PMs are also focused on the creation of business cases that will help to implement new ideas in the portfolio and improve the product roadmap with the usage of the different data management infrastructure in the company. The ramp down of a product or family of products is a rather significant decision that require the upper management and other key stakeholders.

Some of the PMs are directly responsible of the product profitability yet many of them have solely a supporting role whereas all the PMs in the company do focus on reviewing the KPIs on a daily or monthly basis. The product management keeps a close communication with other managers (and business areas) in the company to align the flow of information. The product management tasks and responsibilities are extended to other business units and (internal and external) stakeholders like the sales department, R&D, engineering, supply chain, marketing department, upper management, among others. Some of these stakeholders have a relevant position, like the upper management, which infers in the decision making in milestones reviews and checkups within the NPD phases and some other decision-making processes.

The PMs are responsible for the commercial side and they also follow up the product engineering from other areas in the company. The PM is involved, in a lower level, in the pricing of a product or portfolio and they have common targets regarding the profitability with other business units in the company.

Case Company G

The product management responsibilities in this case company are related to the activities in the business unit the PM belongs to. In this company, the products offered are in fact, services and the PM’s take part in the early phases of the service development in the business unit/group and also in the phases of the service lifecycle which last up to 15 years. The product lifecycle is in a continuous process and there has not been yet a product ramp-down.

The PM focuses on data management which is one of the essential tools that are used and required to provide their services. The PM has a role as a product owner and is also responsible for the whole portfolio of services. The PM is involved in the development meetings with other departments and stakeholders of the company like the technical development area, sales, check on the product/service profitability, product/service feedback, check on daily data from the ERP systems related to sales, finance and customers, product roadmapping, reporting product/services outcomes, analysis of the competitors, analysis of the market, business case, documentation and minor level of pricing and costing. In this company, the PM tasks are multifunctional which is due to the size of the company including also being a project leader.

Regarding the milestone's revisions or checkups and the company's updates, the PM arranges meetings with the key stakeholders of the company in different time frames like weekly, monthly, quarterly and yearly basis. They have an assortment of critical stakeholders for different matters yet for the milestones, they pay special attention to the board of directors and other managers.

The company's organizational structure and the product/service configuration require that the PMs have constant communication with internal and external stakeholders such as customers, development teams, supply chain, marketing department, the sales department, upper management, among others through different channels like CRM, ERPs to meetings, seminars and training.

3.2.3 Synthesis of the Empirical Analysis

The case companies have a different approach and relationship between their products and the company operations. Each of the companies have managed to provide products and services that are -to some extent- adapted to the customer needs, market, structural requirements, product configuration, among others. Moreover, these variations are according to the delivery capabilities of each of the case companies and the adaptability of each of the products to change.

The average product lifecycle for the variety of products from the case companies fluctuates between 5 to 15 years, which in some cases is easier to ramp down and in other cases, to have them continue for longer span of time. Yet, the products that continue ramping-up are being improved and adapted to fit current market trends with new technologies and development processes and that's what the customers are expecting. Customers are looking to upgrade their products based on several factors including product features, technology, gadgets (HW), software (SW) and quality. They also focus on the customer experience of the sales and after sales of the company since it has a significant influence for both the customer and the company.

The PM or a person in a similar position, is the one behind a group of activities related to the economical benefit of a company, the ideation process to the actual development of a product or service in the company. The PM has a key role in the different functions of the company which vary from the standard managerial related matters like KPIs (control, supervision and validation), product profitability, sales (inputs and outputs), business intelligence on competitors (and their products or services), among others. Then, there are those activities related directly to the NPD and with it comes the responsibility of identifying the key players who will be involved in the different phases of a project.

PMs have also been responsible for an entire product portfolio or business unit officially and unofficially through the product lifecycle. Similarly, PMs have also been nominated to be product owners in a project, in a business unit or as part of their responsibilities as PM. PDM in product management functions has been challenging since the companies have not integrated compatible systems for the different process like roadmapping, documentation and configuration but nevertheless, they have multiple sources of independent CRM and ERP systems that works in different channels and for multiple purposes along NPD processes in the product lifecycle.

PMs processes and roles have not been clearly specified by any of the case companies and for that reason their roles and activities have been not exclusively part of product development. Most of the case companies have provided their PMs with a guideline or definition of their roles, however, is mostly regarding the milestone’s procedures, revisions/checkpoints and related tasks. In *table 4,* a summary of the identified functions of the PMs in the case companies are presented.

Table 4. Summary of the Functions of the Product Manager in the Case Companies.

	Product Manager Functions
Company A	Project Leader, Product Implementation, Product Configuration, Product Schedule, Product Definition, Product Compatibility (to the strategy), Milestone Checklist, Product Differentiation, Pricing, Product Development, Product Costing, Production, Product Documentation, Product Roadmapping, Negotiations, Product Proposals, Product Competitiveness, Responsible for the Product
Company B	PLM Daily activities, Project follow up, Steering work, Product review (in product lifecycle), End of life notifications, Product Marketing, Customer Interface, Creating Sales Opportunities, Product Development, Product Customization, Leader of Product Managers, Develop Processes, Milestones Reviews, Product Ramp-Up, Product Ramp-Down, Improve Productivity, Check daily operations, Product Roadmapping, Product Owner, Portfolio Management & Planning, Product Profitability, Pricing, Analysis of Competitors, Metrics of Production
Company C	In charge of production, Engineering, Product Data Management, Check on the sales targets and team, Business Intelligence and Analysis of the Competitors, Product Documentation, Project Leader, Business case creation, Look for new ideas in the market, Talk with sales representatives, Check on the regulations and laws, Look for new sales opportunities, Costing, Product Development
Company D	Product Owner, in charge of the Milestones, Review the Media, Product Feedback (different channels), Gather relevant information for decision making, Make the decision of saleable products, Discussions and presenting ideas to Management, Product Definition, Create the team and concepting work, Select stakeholders, Product features, Product launch, Milestones checks, Product profitability, Sales, Customer management, Product documentation, Roadmapping, Business intelligence on competitors, Project Leader
Company E	Product Commercialization, Productization, Pricing, Billing, Upgrade/update products, Transition from (development to production), Archiving, Data security, Data Management, Product Development, Managerial Activities, Market Research, Product Documentation, Product Roadmapping, Product Ownership, Product Profitability, Analysis of Competitors, Project Leader, Product Engineering
Company F	Monitor the profitability and clients, Product Features, Product Positioning, Product Documentation, Product Data Management, Product Configuration, Business Intelligence of Competitors, Product profitability, Monitoring KPIs, Product Roadmapping, Product Commercialization, Product Engineering, Product Pricing (lower level), Business Case, Project Manager, Product Portfolio Management, Product Owner, Milestones Reviews
Company G	Product Portfolio Management, Organize daily operations, Product profitability, Product Owner, New Product Development, Development Meetings (technical development and sales), Reporting Product Outcomes, Check on Daily Data, Business Intelligence (competitors), Reporting to Key Stakeholders, Pricing & Costing for New Products, Business Case Documentation, Milestones Meetings, Product Documentation, Product Roadmapping, Project Leader

Stakeholders identified among the PMs from the case companies have been determined as relevant to the accomplishment of their activities and many of them have a support role which enriches a determined process, phase or product. The stakeholder’s capabilities are not necessarily focused on the product itself, but its presence adds value to the whole process or final product. The PMs identified different stakeholders presented in *table 5* which is a summary of the internal and external stakeholders from the case companies.

Table 5. *Summary of the Stakeholders in the Case Companies.*

	Internal Stakeholders	External Stakeholders
Company A	Business Leader, Product Management, Product Planning, Product Marketing, Sales, R&D, Financial Department, Marketing and Communication, Human Resources, Legal Department, After Sales, Board of Directors, Vice President, CEO, Project Management, IT, Engineering	Customers, Manufacturers, Competitor, Subcontractors, Government
Company B	Marketing Department, Sales/Commercial, After Sales, Product Manager, Product Lifecycle Manager, PM Customer Solutions, Finance Department, Human Resources, Legal Department, CEO, Vice President, Product Engineering, Quality Manager, Chief Engineers, Sourcing Manager, R&D, IT, Project Management, Product Marketing	Customers, Manufacturers Suppliers, Competitors, Investor, Supply Chain
Company C	Sales Organization, Engineers, Marketing Department, Controlling Department, Legal Department, Financial Department, Manufacturing Department, CEO, Product Manager, Vice President, Board of Directors, Development Department (R&D), Project Manager	Customer, Competitors, Business Partners, Government, Regulators, Logistic Department, Supply Chain, Suppliers
Company D	R&D, Marketing Unit, Sales, Logistics, Research Unit (technology research), Manufacturing, Engineers, Human Resources, Finance, Sourcing, CEO, Product Management, Line Manager, Production, After Sales, Vice President, Project/Program Manager, IT	Customer, Subsidiaries, Suppliers, Distributors, Competitors
Company E	Sales Department, Engineers, Marketing, Human Resources, Finance, Production, Purchasing, Sourcing, Business Manager, Line Director, Product Manager, Technical Product Management, Project Manager, Control Department, Legal Department, IT	Customers, Suppliers, Partners, Regulators, Competitors, R&D, Government
Company F	Sales, Marketing, R&D, Supply Chain, Maintaining, Service Teams, Supporting, Documentation Teams, Training Teams, Finance Department, Manufacturing, Service Manager, Human Resources, Engineering, Production, Product Management, Project Manager, CEO, Product Marketing	Customer, Competitor, Supplier
Company G	IT, Sales, Marketing, Financial Department, Human Resources, Engineering, Board of Directors, CEO, Service Manager, Product Manager, Maintaining, Project Director/Manager	Customers, Consultants, Software Provider, Supply Chain, Competitors, Manufacturers

PMs have been addressing the identification and the classification of the stakeholders yet, most of them have been using their own experiences in the market, industry and company (some over 30 years) to recognize and understand most stakeholders which variates according the project or phase complexity, requirements and experience.

Stakeholder identification in the case companies has been a process based on perceptions and previous experiences. The PMs have been following a process to select the stakeholders in the milestones provided by the companies and the identified stakeholders are mostly internal stakeholders from the different business units and which they have worked in previous occasions. There has not been set a proper structure to identify stakeholders in the companies under a formal or official process where both groups are considered and analyzed. In the case of the internal stakeholders, most PMs referred to them as *"the people who work in the company as part of the projects or as a colleague"*. The internal stakeholders that have more relevance to the PMs in the case companies are presented in *figure 17.*

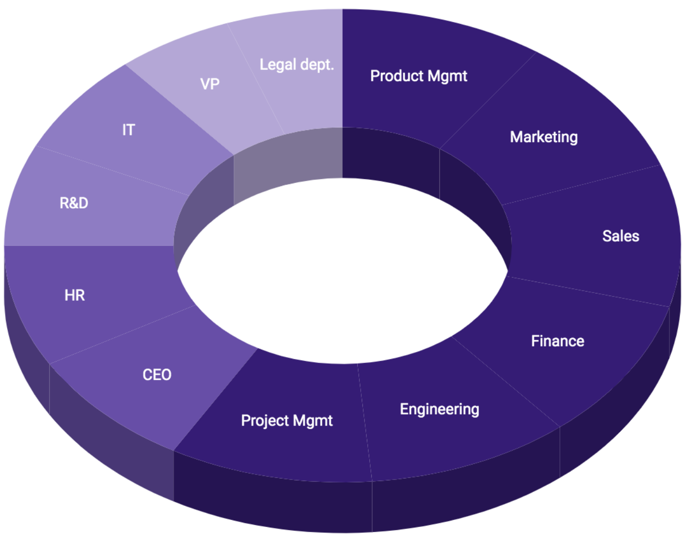

Figure 17. *Most Relevant Internal stakeholders from the Case Companies.*

The stakeholders shown above are mainly part of the different business units or departments in the company which provides product support and engineering, engagement of personnel, advisory material, financial affairs, management and consulting which are contacted at certain phases of the product lifecycle by the PM and have a great influence in the overall decision making in the company.

The recognition of the external stakeholders presented a higher degree of difficulty as manifested by the PMs since it is not a usual classification among the case companies. It is not required in the phases, milestones and processes nor it has the differentiation of third parties that could affect or that can be affected by the company. However, the PMs pointed out the relevance of certain group of stakeholders which the PMs have learned that may have some degree of influence in their activities are the ones depicted in *figure 18,* which present the most relevant external stakeholders recognized by the PMs.

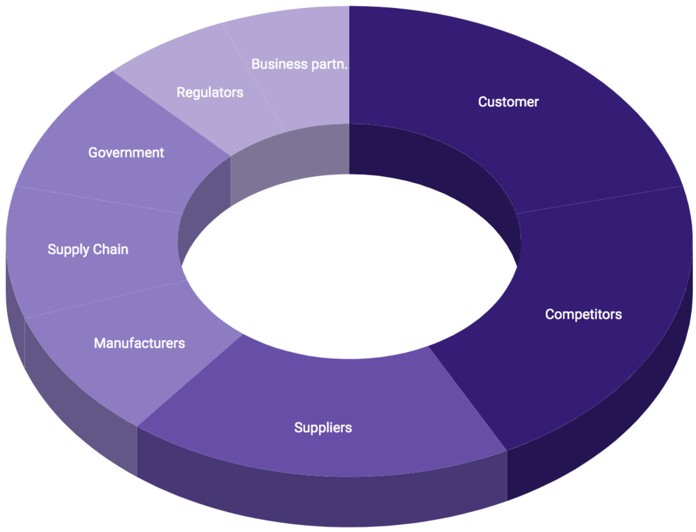

Figure 18. *Most Relevant External Stakeholders from the Case Companies.*

The PMs have recognized that the external stakeholders have direct and indirect influence in the companies and their products in different levels. For example, the customer has an impact on the product structure and configuration as well as the sales and after sales. The competitors promote a healthy relationship that encourage the creation of new products or enhancements to current products and without the suppliers, the manufacturing of HW would not happen and without the supply chain, and the products would not reach the customers. In addition to this, the regulators and government also have a substantial relevance to accomplishment of the normal activities of a company since any change of the law or regulations can impact in different matters like price, cost, product features and sales.

Internal and external stakeholders have high relevance in the activities and company performance. Each company has a unique set of stakeholders which are adapted to the industry and the products or services provided by the company. The PMs are responsible for the management of the different stakeholders in each company and they ensure that the activities are accomplished according to the required quality standards.

4 DISCUSSION

The main purpose of this research is the identification of the stakeholders present in the different activities of product management and to determine the actual role of the PMs in the case companies.

In this research, interesting frameworks have been presented and discussed in the literature review which discussed matters of stakeholder theory, stakeholder management and stakeholder salience and also, from the product management perspective as product development, NPD, PPM, PDM, product lifecycle among others that have been reviewed with the aim of constructing a framework that synthetize the management of stakeholders in product management activities.

The scope of the different research projects has been focusing on construction projects, PPM, PLM, NPD, internal or external stakeholders and stakeholder salience, however, there is no research that focuses primarily on the identification, classification and assessment of stakeholders in present in product management activities.

The stakeholder identification and management are new concepts in the Finnish companies where a product management functional area is found. There have been some misconceptions about the role of the PMs which, induce to believe that PMs focused on only in the product related matters and on the other hand they focused merely on managerial aspects yet the fundamental task for them is the stakeholder identification and management.

Stakeholder management is the science that look to study, identify and classify the stakeholders under different frameworks. The notion and its scope have not been fully adopted in the product management activities and thus, in most of the case companies the knowledge about stakeholder identification is minimal. This research project was created with the aim of recognize among the PMs a general knowledge of the stakeholders which are present in their daily activities and key processes. There has not been a research that aimed to create a framework which targeted stakeholder identification and stakeholder management (related to the salience of the stakeholders) within the product management activities. Similarly, the PM role has not been clearly identified and standardized among the Finnish companies.

After the analysis of the empirical data, the results showed that the formal identification, classification and determination of the salience of the stakeholders in product management have not been fully implemented to the current activities of the PMs in the case companies. Stakeholder identification is carried out as part of the stakeholder mapping at the moment of initiating a new phase or milestone in NPD. Yet, it has not been implemented to its full capacity where the stakeholders can be simultaneously identified, classified and assessed. Additionally, the PM role and the structure of his or her functions has not been clearly defined among the companies and is understood and seen from a heuristic perspective. The PM is responsible for the accomplishment of multiple tasks related to its product but also regarding the general business activities in the company. The salience of the stakeholders is a new concept for the PMs and is has not been widely known or researched further in the companies.

4.1 Stakeholders of Product Management

Stakeholder identification and classification is a practice that has not been evenly adopted in product management activities. This is partly due to a misunderstanding of who is called a stakeholder and who performs the different assessments and later selection according to the active role of the stakeholder in the company.

The stakeholders of product management in the case companies are divided into two (informal) categorizations: internal and external stakeholders as explained by Freeman 1984; Atkin and Skitmore 2008. The internal stakeholders, according to the results of the research, are part of the company by legitimate terms (contractual) and have a direct relationship which implies that it is a person or group of people who work for the company. The external stakeholders are recognized as a person, a company or an entity that have a direct or indirect relation with the activities of the company.

PMs are embedded in the identification of key players or key stakeholders that participate in the whole length of a project or just through a phase or milestone. The key stakeholders are selected according to capabilities, extension of the project, complexity of the project and availability. The resource allocation influences the decision-making process for the selection of the stakeholders. PMs usually select the stakeholders and form what is explained by Haines (2014) as *the cross-functional product teams* which are involved in the different phases of product lifecycle.

The findings of the research suggested that PMs have a different selection process of the stakeholders. Some PMs follow a process definition/description which are predefined by the company aiming to have a standard process. The guideline of procedures includes checklists for different purposes such as the business case, input and output, milestones, phase or stage deadlines and suggestions of what is needed to be considered when reaching certain point. Few companies have implemented these guidelines for their project development and the others are working on their own definition of processes.

The stakeholders are identified in the case companies at i) Initial phases of NPD and at ii) Product development. At the i) Initial phases of NPD, the PM's suggested that they are responsible for the development of the idea, the business case and the presentation of the project to management which is done with a minimal number of stakeholders and resources. After the project has been presented, depending on the decision (whether it is accepted or rejected) the stakeholder identification and selection process begins. Among the case companies, the classification is not commonly done simply because it is not established as a required task for the PMs. Nevertheless, some PMs suggested that they make their own (informal) classification based on previous experiences with stakeholders.

At the ii) Product development, the selection of the stakeholders fluctuates and is renewed at the end of each milestone or phase through the product lifecycle. The PMs agreed that at this point of the product development, they have structure and visibility of the project beside a defined list of product features to accomplish. The selection of stakeholders is based on the developing phase of the project, available resources and schedule. On the other hand, the selection is also based on the configuration of the product (or service) the company is providing e.g. developing a product interface in which they required an engineer having experience on specific tasks or programming tools *e.g.* Scala, Java, JavaScript, Kotlin, C++, Python, TypeScript, among others.

In the previous chapter, a summary of the internal and external stakeholders of the case companies identified by each company PMs was presented. In *figure 19,* the summary of identified stakeholders present in product management activities in the case companies is illustrated. In the horizontal axle (X), we find the frequency of repetition of the stakeholder where 0, equals that there is no stakeholder presence in any of the companies and 7, equals to the presence of the stakeholder in all the case companies. In the vertical axle (Y), contain the list of stakeholders found in the companies.

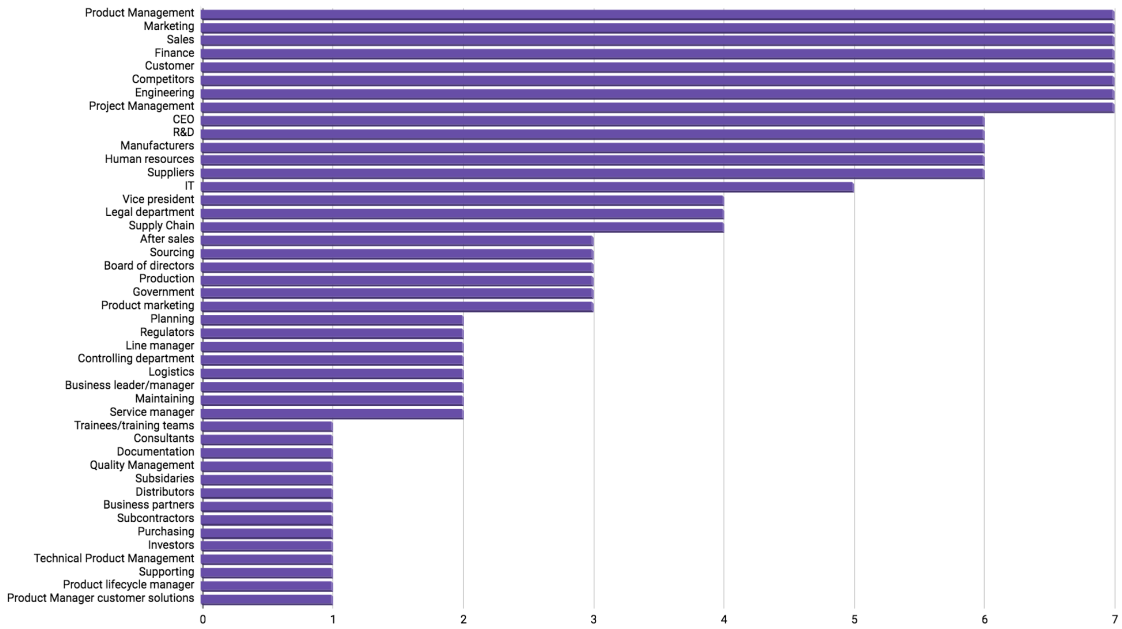

Figure 19. *Stakeholders of Product Management from the Case Companies.*

Although the stakeholder classification or segmentation in the case companies have been performed unofficially, the PMs recognized each group of stakeholders. The internal group was a simpler task than the external group which presented clear challenges. *Figure 20* explain the classification of the stakeholders as perceived from the PMs.

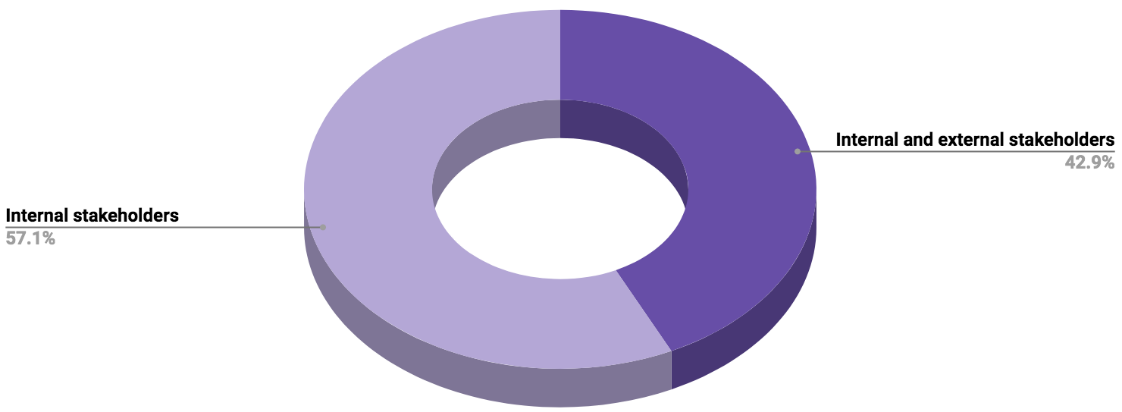

Figure 20. *Stakeholders Classification from the Case Companies.*

The findings of the research illustrated that 57.1% of the PMs recognized the internal stakeholders without significant effort or complications and 42.9% recognized both the internal and external stakeholders. These results show the lack of attention of the identification of the external stakeholders in the companies, where it may or may not be involved the PMs which could lead to misunderstandings, conflict of interests and challenges as explained by Aaltonen *et al.* (2010). In *table 6*, the most important stakeholders from the case companies are presented below.

Table 6. *The Most Important Stakeholders from the Case Companies.*

	Internal	External
Stakeholders	*Product Management, Marketing, Sales, Finance, Engineering, Project Management, CEO, R&D, Human resources, IT, Vice president, Legal department*	*Customer, Competitors, Suppliers, Manufacturers, Supply Chain, Government, Regulators, Business Partners*

4.2 Stakeholder Salience

The study illustrates that there is a lack of knowledge from the PMs in the case companies. Salience in the stakeholders of product management is underestimated and not analyzed among the PMs. Salience is the importance of a stakeholder in the eyes of a PM or the company which have influence to impact positively or negatively the decision making and the company's activities and outcomes.

As reviewed in Chapter 2, in the literature review, different authors presented their viewpoint of the salience in stakeholders such is the case of Mitchell *et al.* (1997) which suggested a framework based on three attributes (and sub attributes) of the stakeholders which are power, legitimacy and urgency. Similarly, the framework of Olander (2007), which explained the salience framework of impact analysis based on four quadrants (Keep satisfied, Key Players, Minimal effort and Keep informed) -which are explained in the Aapaoja and Haapasalo (2014) framework- which focus the attention a PM should pay to the stakeholders. One case company mapped their stakeholders and identified their role based on Olander (2007) framework, along with the results of the input and output the PM noticed if the stakeholder has relevance to the project or not, but it was not used for stakeholder assessment. Moreover, Aapaoja and Haapasalo (2014), presented a framework that merges the identification of stakeholders and salience assessment needed to determine the involvement of stakeholders, salience or priority given to a stakeholder in a project which have relevance on this research.

The relevance of salience is also discussed among different authors, which support this research, like Kinnunen *et al.* (2014 b) where they implied that the success of product development is reached when integrating stakeholder management and salience assessment which is suggested to be considered as a key role for PMs. Salience of the stakeholders is not assessed in the case companies.

4.3 Product Management Role

The results of this study clearly indicated that the product management role is considered to be a heuristic role which is self-learned or the *"holistic business management of the product" as explained by Haines (2009)*.

Product management role in the case companies is focused on the development of new products and services and, a miscellanea of activities that are related to multiple elements of management, profitability and product related matters. In this research study, the analysis of the answers from the interviewed PMs were synthetized and it was possible to create the following framework of the role of a PM. In *figure 21,* the PM role is presented.

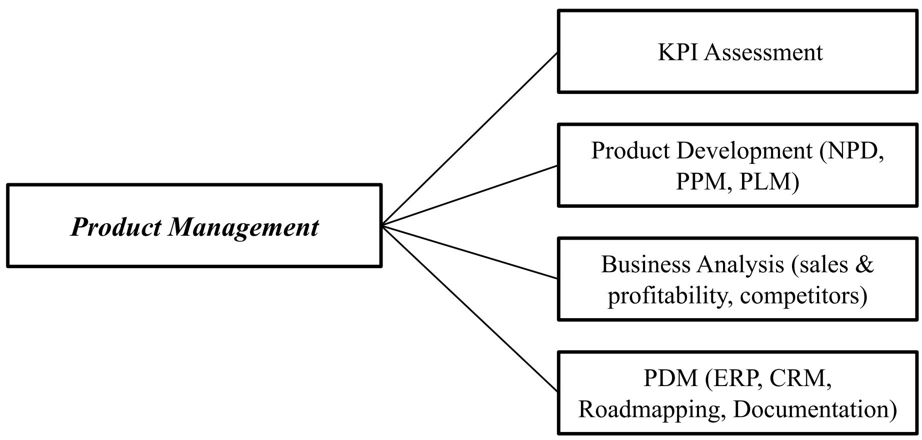

Figure 21. *The Product Manager Role Framework from the Case Companies.*

This presented framework determined the common role of the PMs in the case companies and have four areas of focus: i) KPI assessment; ii) Product development; iii) Business Analysis and iv) PDM.

The i) KPI assessment is aligned to the company's strategy, value maximization and portfolio balance as explained by Tolonen *et al.* (2015). This KPIs are a result of the current products and services the company has and the new product additions to the portfolio that required that the PM update the targets and KPIs accordingly. In this division only the KPIs related directly to the product or service are considered. Additionally, in ii) Product development, the PMs in the case companies have explained that they are embedded in the different phases and milestones of NPD -as product owners- and they lead the PPM in many cases without a defined position; and PMs also look after the PLM that involve creation of strategies, product structure, among others, which is explained by Haines (2014) and Stark (2005).

The third division of this framework is iii) Business analysis, this comprise the KPIs related to value maximization -as explained in Tolonen *et al.* (2015)- which include the sales, costing, pricing, financial analysis, product margins, revenue and in addition, they perform business intelligence on competitors and their products, market analysis, future trends, customer research, customer feedback, among others. Some PMs have information systems that ease the functions and connects them with key stakeholders (as financial or sales department) where they can get updates on data if not found in the ERPs o CRMs. In the final division or area iv) PDM, is focused on the management of the data related to the product which comprises the product roadmapping, product configuration, product development, product engineering, among others. The lack of integrated systems which allow the PMs to work through all this process generates delays and work overload since they are responsible, in a way, of protecting the valuable product data and the integration of the processes.

4.4 Stakeholder Management Framework

The identification, classification and salience assessment of the stakeholders in the product management activities is a subject of debate among the PMs. The results clearly indicated that there is a need to implement an efficient process which support the assessments in a practical approach.

The framework is constructed after mapping the activities of the PMs, highlighting the importance of the identification, classification and assessment of the stakeholders in product development. Thus, the main purpose of this framework is to enable the rapid stakeholder identification in critical paths (and other projects), informed decision making regarding the selection process of stakeholders, the classification of the stakeholders, the assessment of the salience and the prioritization according to it which aims to aid the PMs activities in product development. The constructed framework consists of nine steps:

1.- Definition of the initial phase of a project: ideation process of NPD and later product development (Haines 2009 and Haines 2014).

2.- Identification of the characteristics of the project and definition of the project's complexity according to PMs specifications.

3.- Identification of plausible stakeholders and their characteristics which are aligned to the current project or phase.

4.- Selection of stakeholders based on their experience, availability and commitment for the project.

5.- Classification of the stakeholders into internal and external groups.

6.- Identification of the stakeholder salience in the project (Mitchell *et al.* 1997; Olander 2007; Aapaoja and Haapasalo 2014; Kinnunen *et al.* 2014 b).

7.- Assessment and prioritization of the internal and external stakeholders according to their salience (Mitchell *et al.* 1997; Olander 2007; Aapaoja and Haapasalo 2014).

8.- Determine the probability to impact and influence the decision making of the PMs and the project.

9.- Define the stakeholder role in the project and the strategy for PMs and people involved in the decision-making process.

The *figure 22* (shown below), presents the framework of this study where is possible to identify the different areas of focus of Product Management which define the activities of the PMs in the case companies. The suggested framework comprises from the definition of the project and early phases of product development (or NPD) to the classification and assessment of the internal and external stakeholders.

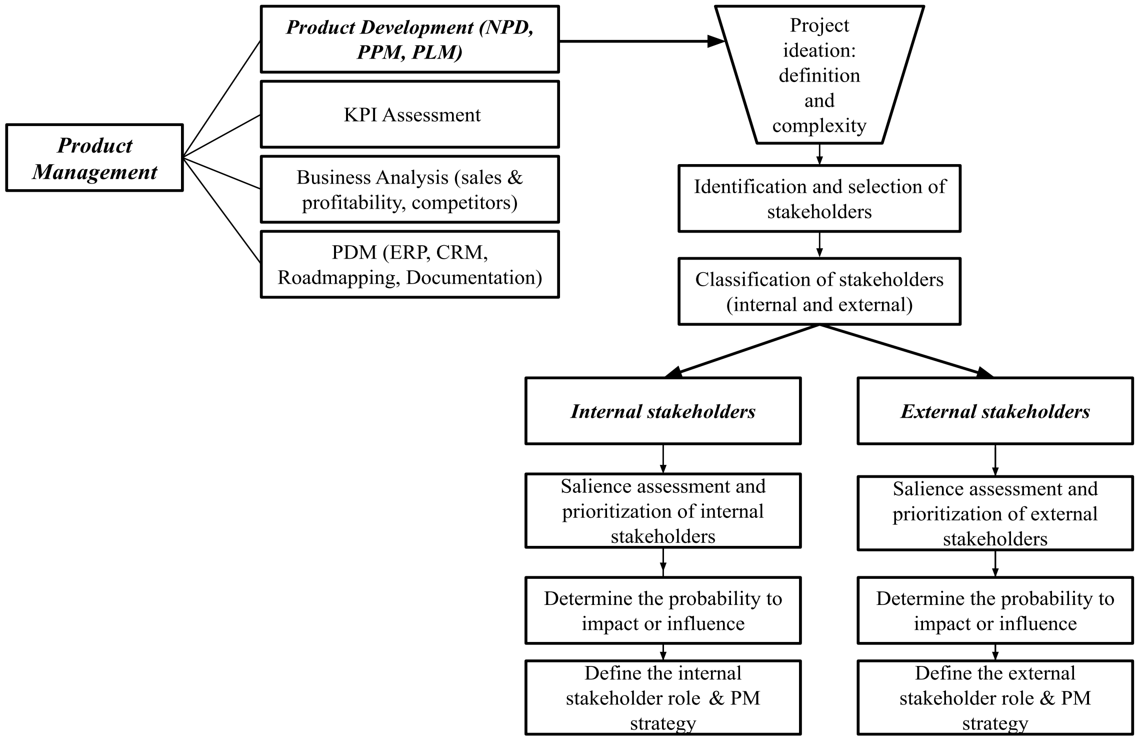

Figure 22. *Stakeholder Management Framework in Product Management Activities.*

This framework also suggested the definition of the stakeholder role and the strategy that the PM will follow according to the stakeholder salience. The implementation of this framework can be used not only to products but also to services and thus, it could be extended to the application in all the product management activities such as the case companies in this research.

5 CONCLUSION

5.1 Key Results

This research is focused on the identification of the key stakeholders of Product management, the PM role in the case companies and whether is possible to construct a framework for the PM activities.

The answer of the RQ1 has its fundamentals in the literature review and in the empirical research. Stakeholder approach in the literature review, opened up the perspective of stakeholder management which helped to understand the complexity of the identification, classification and assessment of stakeholders that was later explained from the perspective of a PM.

Stakeholder management comprises the understanding of the stakeholders in a company, in a project and in different situations that are linked to the company activities or due to external factors. Under this perspective, stakeholders of product management are the ones that have a vital importance in the activities of a PM in a specific sector, industry, product or service.

The analysis of the stakeholders of product management comprise of the identification, classification and salience assessment. The identification of stakeholders refers to the scanning of the different stakeholders based on certain characteristics that are defined by the PM based on experience, complexity of the project, availability, among others, which are aligned to the project or phase. The classification of stakeholders refers to the segmentation of the stakeholders into internal and external groups. The segmentation is explained with contractual legitimacy which bound the internal stakeholders and in the case of the external stakeholders they do not have a direct relationship with the company but can affect or result affected by the company's activities. And lastly, the salience assessment which measure the importance of a stakeholder regarding a project or directly towards the company. Salience in a stakeholder possess both positive and negative outcomes and this variation determine the degree of impact in a project, phase or overall, in the company's activities which should be monitored by the PMs.

This research indicated that the only analysis currently performed in the PM activities is the identification of the stakeholders based on their personal capabilities and the project orientation. The selection of the stakeholders is based mainly on project related capabilities and further analysis of the stakeholders in the case companies has not been followed. The implementation of the classification and salience assessment of the stakeholders is highly recommended in order to have a wider perspective of each stakeholder present in the product management activities. This is also translated into a well-based decision making and the creation of a strategy that will ease the positive and negative outcomes of the analyzed stakeholders.

The answer of the RQ2 and the overall results indicate that the stakeholders are unofficially classified into internal and external groups, highlighting the attention of the internal stakeholders that are visible to the PMs. The key stakeholders are the ones that have a significant relevance to the PMs, in the case companies, which enable them to accomplish the different activities that are linked to the product management role in each case company. The key stakeholders vary according to the type of company, the industry, the product or service and the size of the company, however, the research has found similarities in the answers of the PMs that were interviewed. In *table 6*, the key stakeholders are presented.

Table 7. *Key Stakeholders of Product Management from the Case Companies.*

Internal Stakeholders	External Stakeholders
Product Management, Marketing, Sales, Finance, Engineering, Project Management, CEO, Human Resources, R&D, IT, Vice president, Legal department, Manufacturers, After sales, Sourcing, Board of directors	Customer, Competitors, Suppliers, Manufacturers, Supply Chain, Government, Regulators, Business partners, R&D, Logistics, Consultants, Subsidiaries, Distributors, Subcontractors, Investors

The results pointed out that the key stakeholders in both cases, for the internal and external stakeholders, were essential pieces in critical paths or in determined milestones or phases of the NPD and product development. The PMs suggested that they already know who they need to contact when reaching a specific phase or milestones implying the contact of other stakeholders within the company stressing the need for consultation to the Upper Management (CEO, Board of Directors, Vice President, PM, Project Managers, among others) in different scales and in processes but recurrently to the resource allocation. Similarly, the external stakeholders are critical in defining the outcome of the whole activities such is the case of government or regulators which decisions -based on the law- affect in great proportions the overall results of the PM area and the company. The key stakeholders may also be part of both the internal and external categorization like the case of manufacturing, suppliers, R&D, among others, which depending on different factors such as the size of the company, resources and infrastructure could present duality as key stakeholders. This stakeholders can appear in large groups or smaller groups and the quantity depends on the size of the company and the role of the PM which in many cases, have to perform similar roles than a stakeholder such as the Sales Department or After Sales, Project Management, Human Resources, among others.

The answer of the RQ3 is shown in the results of this study which pointed out that the Product Management role has not been clearly defined among the case companies. Some companies have showed a structural proficiency of the active role of the PM with the implementation of guidelines or definitions of PM, how he or she should do it and what structure to follow according to the product implementation phases and milestones. Other companies showed that due to different factors which include size, resources, time, among others, this type of guidelines where the role of a PM is defined has not been developed. The PM require some structure of the scope of their activities which can be product focused or a miscellanea of different tasks.

The aim of this research study also focused its attention to the identification of the PM role in the case companies and the results pointed out that the PM active role is developed in four areas which are KPI assessment, Product development, Business Analysis and PDM. Each of these areas where the PM develop its activities vary according to influencing factors as the size of the company and the available resources. However, the results pointed out that despite these factors, the PM is required to accomplish the identification, classification of the stakeholders in the area of product development.

The mapping of the four areas of the PM activities in companies provides a clearer structure of what product management should focus on. This PM framework synthesized the main areas of work for the efficient development of activities. The stakeholder identification, classification and salience assessment are suggested in this study with the extension of the initial PM framework. The implementation of the full framework will provide with information that reveal the real nature of a stakeholder towards a project or the company. The information obtained as a result of the usage of this framework will impact the decision making of a PM, or a person in a similar position, since it provided information from a perspective not normally analyzed and is based in the short term (over one phase or milestone) or extended as required. Then, the PM can develop a strategy on how to overcome positive or negative outcomes related to the stakeholder management.

The identification of the stakeholders of PM (RQ1, RQ2) in early phases are a great task to accomplish according to the results of the study. PMs expressed the need to identify and select the stakeholders in the early phases to avoid double booking of such stakeholders which results in delays, higher risks, termination of the project or resource allocation. The aforementioned framework aimed to be used as a potential tool in the PM activities which focused on the identification, classification and assessment of salience of each of the stakeholders present in the PM activities.

The role of a PM has been defined in this study based on four areas of focus (RQ3). The application of this framework intends to improve the visibility of the stakeholders, their intentions of cooperation or work against the project or company and, to measure the impacts of the actions of the stakeholders and converge the attention on the required stakeholder at the right time.

The early identification of the stakeholders creates awareness among the PMs and provides a structure where the responsibilities and tasks of the stakeholders can be complied according to the requirements and the salience. It is also seen as a path to reduce the tensions and problems, as well as the risks that may arise in certain phase of a project which can be modified in advance. Additionally, stakeholder identification promotes a continuous communication among the stakeholders and the PMs that is translated into an open platform of dialogue and which generate dual interaction at an organizational level.

5.2 Theoretical Implications

This research provided a framework where the Product Management role and the identification process of the stakeholders were mapped. The research that has been previously carried out focused on matters that differs from the main subject of this study. The appointed attention to subjects related to the assessment of salience in the stakeholders of product management have been without precedent and have been a matter of interest among the case companies.

A limited amount of studies has presented interest in the measurement of the salience of stakeholders in a determined type of project, product development phase and product lifecycle phases yet only a few have presented interest on the stakeholders of product management their classification and salience assessment simultaneously.

This study presents the different elements in the product management role and the suggestions of how to effectively perform a complete assessment of the stakeholders in product management activities.

5.3 Result Assessment

This study aimed to understand the active role of a PM and how they proceed with the identification, classification and the salience assessment of the stakeholders in PM activities in the case companies. The focus of this study was product management and stakeholder identification as the main topics of the research which were analyzed based on the literature review and the empirical data collected from seven case companies.

The research revised different topics regarding stakeholder approach, stakeholder theory, stakeholder management, product management, PPM, among other topics that were relevant for the completion of this study. The research was carried out in the ICT sector in Finnish companies as well as in multinationals that have operations in Finland. The topics matter of this research was selected to understand stakeholder identification in PM activities which have not been discussed previously from this perspective.

Stakeholder identification has an important role in the activities of a PM in matters of product development. The early identification of the stakeholders helps to attain a compromise or commitment of the stakeholders and also an efficient allocation of resources beside of comply with the requirements and the proposals needed to successfully implement a team formation and achieve the goals set for the milestone or phase in a project. Moreover, early stakeholder identification improves the recognition capabilities of the PM to notice if a key stakeholder is missing and to create a counter strategy to balance the team capabilities ahead of time.

The results indicated that the stakeholders of product management have been mistakenly taken for granted and hardly recognized by team members or managers in the different companies due to the fact that the people of a business unit normally do not see the PMs, development team, marketing department, upper management, among others, as a stakeholder but as a “colleague or team members” and they are unaware of the benefits of correct stakeholder identification. The PM has had the responsibility of mapping the stakeholders with emphasis on the certain group of stakeholders which are key players in different functions of the company yet, for the scope of this study, would have been preferable to have, to some extent, a standard stakeholder identification process.

The misinformation of stakeholder management which include the identification, classification and salience assessment generates that companies are not aware of the potential benefits and/or threats in a project. The risk assessment is normally carried out in another area of the company and the risks results are not shared due to restrictions or data sensitivity which leave the PM uninformed and exposed to such threats.

The accomplishment of product management activities with the usage of the different data management systems like ERPs or CRMs that were available in the case companies, were used exclusively to the collection of the product data such as in product configuration, product structure, product costing and pricing. Unfortunately, the companies lacked a proper platform for stakeholder mapping. A specified product roadmap and product configuration could contribute to the appropriate stakeholder identification since it aligns to the phases and milestones of the product lifecycle.

The research indicates that the non-standardization of the processes in product management is a consequence of the absence of guidelines and definitions of the PM role and process. The lack of specifications of the role of the PM leave ambiguity and undefined responsibilities. PMs should follow a structure of input and output that induces to the recognition of the stakeholder capabilities for a specific time frame, process or phase in a project. It is important to highlight that the PMs are not always in a leading position, nevertheless, they have a supporting role in the company to other PMs (if applicable) and management from the different business units. The PM role, in some cases, is under a normative structure which follows the principles of ideal behavior from the company point of view which are aligned to the strategy and business culture, but it does not necessarily reflect the ideal of a PM. In the same way, the size of the company, the products or services, the industry, among other factors directly affects the role of a PM which means that this correlates with the resources allocated in product management and thus, the more people are involved then in PPM, PDM, PM and NPD.

In addition to this, companies that have subsidiaries or offices in other geographical locations presented different challenges regarding the visibility of stakeholders from these offices. PMs or other people from business units do not recognized stakeholders outside their offices and, at the moment of the identification and selection of the stakeholders they face a major challenge. The PMs commented that this was a common happening in their activities since they do not have regular interactions with those branches of the company and the identification of stakeholders is challenging. Language barriers, cultural approach and business activities have a great impact in the stakeholder identification as mentioned by the interviewees.

The salience assessment is considered to be a challenge to the case companies where it has not been openly used nor discussed. Among the factors recognized that influence the decision of not assessing the stakeholders is found out that there is a general misinformation in the companies, the management team and PMs regarding what is salience of a stakeholder and why is required to assess it. The lack of knowledge in the subject limited the information gathered from the PMs for this research study which could have provided a different view of the salience in product management activities.

The assessment of the research in terms of validity and reliability, have been supported from the different sources of literature aligned to the scope of the study and the aim of the research through the selected method of qualitative analysis which was a questionnaire followed by an interview which were recorded and later transcribed. According to *Carmines and Zeller (1979)*, reliability *"concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials"*. Therefore, under this perspective, this study has been completed in terms of reliability. Validity, on the other hand, refers to the veracity of the results if applied to another group. Both validity and reliability aimed to measure the veracity of the data and the consistency if the research is repeated, which was confirmed in the repetition of the interviews within the seven case companies. The empirical data collected from this research provided information about the current practices in product management and stakeholder management in Finnish companies.

Additionally, the experience of the PMs impacted positively and negatively to the outcomes of the research, the knowledge of the subjects discussed, the performance of the company in the market and the position of the PM in the company could have span on different viewpoints of PM and stakeholders.

5.4 Future Research

The assessment framework utilized in this study was completed to identify and classify the different stakeholders in the product management activities within the different case companies. The future research should focus on the development and analysis of the salience of each individual stakeholder to notice some changes or be able to understand the grounds of their salience. In the same way, create corrective measurements -whether to increase or decrease the salience- to align the behavior of the stakeholders or stakeholder groups according to each company and the field of the industry.

The product management have been using different data management systems (ERPs, CRMs, others) for different purposes directed to the collection of the data of the product e.g. product configuration, product structure, production, costing and pricing yet, PDM has not been implemented as a platform for stakeholder mapping which could be developed in the future as an integrated system.

REFERENCES

Aaltonen, K., Kujala, J. & Oijala, T., 2008. Stakeholder Salience in Global Projects. International Journal of Project Management, Vol. 26, p. 509-516.

Aaltonen, K. & Kujala, J., 2010. A Project Lifecycle Perspective on Stakeholder Influence Strategies in Global Projects. Scandinavian Journal of Management, Vol. 26, p. 381-397.

Aapaoja, A. & Haapasalo, H., 2014. A Framework for Stakeholder Identification and Classification in Construction Projects. Open Journal of Business and Management, Vol. 2, p. 43-55.

Agle, B. R., Mitchell, R. K. & Sonnenfeld, J. A., 1999. Who Matters to CEOs? An Investigation of Stakeholder Attributes and Salience, Corporate Performance, and CEO Values. Academy of Management Journal Vol. 42, p. 507–525.

Andriof, J., 2002. Unfolding Stakeholder Thinking: Theory, Responsibility and Engagement. Sheffield, South Yorkshire, England: Routledge.

Annacchino, M., 2003. New Product Development: From Initial Idea to Product Management. Amsterdam; Boston, MA: Butterworth-Heinemann.

APQC, 2007. Portfolio Management: Optimizing for Success: Hewlett-Packard. American Productivity & Quality Center (APQC), p. 89-96.

Artto K., Martinsuo M. & Kujala J., 2011. Project business. Helsinki, Finland.

Atkin, B., & Skitmore, M., 2008. Editorial: Stakeholder Management in Construction. Construction Management and Economics, Vol. 26 (6), p. 549-552.

Ayuso, S., Rodríguez, M. A., García-Castro, R. & Ariño, M. A., 2007. Maximizing stakeholders' interests: An empirical analysis of the stakeholder approach to corporate governance. IESE Insight, University of Navarra.

Bhaskaran, S. R. & Krishnan V., 2009. Effort, Revenue and Cost Sharing Mechanisms for Collaborative New Product Development. Management Science, Vol. 55, p. 1152-1169.

Brenner, S. & Cochran, P., 1991. The Stakeholder Theory of the Firm: Implications for Business and Society Theory and Research. In ed: Mahon, J. F. (ed.) International Association for Business and Society. P. 449-467.

Carmines, E. & Zeller, R., 1979. Reliability and Validity Assessment. SAGE Publications, Inc.

Carroll, A., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33, p.128-131.

Carroll, A., & Buchholtz, A., 2012. Business & Society: Ethics, Sustainability, and Stakeholder Management. Eight Edition. South-Western, Cengage Learning.

Clarkson, M., Starik, M., Cochran, P., Jones, T. M. & al, e., 1994. The Toronto Conference: Reflections on Stakeholder Theory. Business and Society, Vol. 33(1), p. 82.

Clarkson, M., 1995. A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. Academy of Management Review, Vol. 20, p. 92-117.

Cochran, P., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33, p. 95-98.

Collins, D., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33, p. 121-123.

Cooper, R. G. & Edgett, S. J., 1997. Portfolio Management in New Product Development: Lessons from The Leaders - Part 1. Vol. 40 (5), p. 16.

Cooper, R. G., Edgett, S. J., & Kleinschmidt, E. J., 1999. New Product Portfolio Management: Practices and Performance. Journal of Product Innovation Management, Vol. 16 (4), p. 333-351.

Cooper, R. G., 2013. New Products-What Separates the Winners from the Losers and What Drives Success. In ed.: Kahn, K., Kay, S., Slotegraaf, R. & Uban, S., 2013. The PDMA Handbook of New Product Development. Product Development and Management Association. Hoboken, N.J: Wiley cop.

Donaldson, T. & Preston, L., 1995. The Stakeholder Theory of the Corporation: Concepts, Evidence, Implications. Academy of Management Review, Vol. 20, p. 65-91.

Drucker, P. F., 1974. Management: Tasks, Responsibilities and Practices. New York: Harper & Row.

Etzioni, A., 1964. Modern Organizations. Prentice Hall, Englewood Cliffs.

Freeman, E. R., 1984. Strategic Management: A Stakeholder Approach. Pitman Publishing, Marshfield.

Freeman, R., 1994. The politics of Stakeholder Theory: Some Future Directions. Business Ethics Quarterly, Vol. 4, p. 409-422.

Freeman, R., 2017. Five Challenges to Stakeholder Theory: A Report on Research in Progress. In ed.: Wasieleski, D. M., & Weber, J. Stakeholder Management (Vol. First edition). Bingley: Emerald Publishing Limited.

Friedman, A. L. & Miles, S., 2006. Stakeholders: Theory and Practice. Oxford: OUP Oxford.

Frooman, J., 1999. Stakeholder Influence Strategies. Academy of Management Review, Vol. 24 (2), p. 191-205.

Goodpaster, K. E., 1991. Business Ethics and Stakeholder Analysis. Business Ethics Quarterly, Vol. 1 (1), p. 53-73.

Govil, M. & Proth, J. M., 2002. Supply Chain Design and Management: Strategic and Tactical Perspectives. San Diego: Academic Press.

Haines, S., 2009. The Product Manager's Desk Reference. McGraw-Hill USA.

Haines, S., 2014. The Product Manager's Desk Reference. Second edition. New York: McGraw-Hill Education.

Hiriyappa, B., 2008. Investment Management: Securities and Portfolio Management. New Delhi: New Age International.

Jones, T. M., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33, p. 98-101.

Jones, T. & Wicks, A., 1999. Convergent Stakeholder Theory. The Academy of Management Review, Vol. 24 (2), p. 206-221.

Kahn, K., Kay, S., Slotegraaf, R. & Uban, S, 2013. The PDMA Handbook of New Product Development. Product Development and Management Association. Hoboken, N.J: Wiley cop.

Kinnunen T., Sahlman K., Härkönen J. & Haapasalo H., 2013. Business Ecosystem Perspective to New Product Development. International Journal of Business Development and Research, Vol. 1(1), p. 6–22.

Kinnunen, T., Hanninen, K., Haapasalo, H. & Kropsu-Vehkaperä, H., 2014. Business Case Analysis in Rapid Productization. International Journal of Rapid Manufacturing, Vol. 4(1), p. 14–27.

Kinnunen, T., Aapaoja, A. & Haapasalo, H., 2014 b. Analyzing Internal Stakeholders' Salience in Product Development. Technology and Investment, Vol. 5, p. 106-115.

Kinnunen, T., 2016. Product Management Perspectives on Stakeholder and Business Opportunity Analyses in The Front End of Product Creation. University of Oulu.

Kotler, P., Keller, K., Brady, M., Goodman, M. & Hansen, T., 2009. Marketing Management: First European Edition. Prentice Hall.

Krishnan, V. & Ulrich, K.T., 2001. Product Development Decisions: A Review of the Literature. Management of Science, Vol. 47(1), p. 1 - 21p.

Kropsu-Vehkaperä, H. & Haapasalo, H., 2011. Defining Product Data Views for Different Stakeholders. The Journal of Computer Information Systems, Vol. 52 (2), p. 61-72.

Kropsu-Vehkaperä, H., 2012. Enhancing Understanding of Company-Wide Product Data Management in ICT Companies. University of Oulu.

Kumar, S. A. & Suresh, N., 2009. Operations Management. New Delhi: New Age International.

Lawley, B., 2009. The Phenomenal Product Manager. Cupertino, CA: Happy About.

Lehmann, D. R. & Winer, R. S., 2002. Product Management: Third Edition. McGraw-Hill/Irwin.

Majava, J., 2014. Product Development: Drivers, Stakeholders, and Customer Representation During Early Development. University of Oulu.

Mitchell, R. K., Agle, B. R. & Wood, D. J., 1997. Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts. The Academy of Management Review, Vol. 22, p. 853-886.

Olander, S., 2007. Stakeholder Impact Analysis in Construction Project Management. Construction Management and Economics, Vol. 25, p. 277-287.

Post J. E., Preston L. E. & Sachs S., 2002. Managing the Extended Enterprise: The New Stakeholder View. California Management Review, 45(1), p. 6-28.

Savage, G., Nix, T., Whitehead, C. & Blair, J., 1991. Strategies for Assessing and Managing Organizational Stakeholders. Academy of Management Executive, Vol. 5 (2), p. 61- 75.

Starik, M., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33, p. 89-95.

Stark, J., 2005. Product Lifecycle Management: 21st Century Paradigm for Product Realisation. New York: Springer.

Stark, J., 2015. Product Lifecycle Management (Volume 1). 21st Century Paradigm for Product Realisation. Third Edition. Springer International Publishing, Switzerland.

Stein, G., 2010. Managing People and Organizations: Peter Drucker's Legacy. (Vol. 1st ed). Bingley, UK: Emerald Group Publishing Limited.

Suchman, M. C., 1995. Managing Legitimacy: Strategic and Institutional Approaches. Academy of Management Review, Vol. 20, p. 571-610.

Sääksvuori, A. & Immonen, A., 2008. Product Lifecycle Management. Berlin: Springer.

Tolonen, A., Shahmarichatghieh, M., Härkönen, J. & Haapasalo, H., 2015. Product Portfolio Management – Targets and Key Performance Indicators for Product Portfolio Renewal Over Life Cycle. International Journal of Production Economics Vol. 170, p. 468-477.

Tolonen, A., 2016. Product Portfolio Management Over Horizontal and Vertical Portfolios. University of Oulu.

Trott, P., 2012. Innovation Management and New Product Development (5th ed.). Harlow: Financial Times/Prentice Hall.

Ulrich, K. T. & Eppinger, S. D., 2000. Product Design and Development. McGraw-Hill.

Ulrich, K. T. & Eppinger, S. D., 2008. Product Design and Development. 4th ed. McGraw-Hill, Boston.

Van der Merwe, R., 2004. Making It Right: Product Management for a Startup World. Freiburg, Germany: Smashing Magazine GmbH.

Wartick, S., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33, p. 110-117.

Winch, G. M., 2004. Managing Project Stakeholders. In ed.: Morris, P. W. G. & Pinto J. K. The Wiley Guide to Managing Projects. New Jersey: John Wiley & Sons Inc.

Wood, D. J., 1994. Essay on the Toronto Conference. Business & Society, Vol. 33 p. 101-105.

APPENDIX

Appendix 1: Questionnaire

Questionnaire for the Case Companies

Company's name:

Interviewee's Name:

Interviewee position:

Date of the interview:

Product Management

1.- What is the function or role of a Product Manager in your company?

2.- What is your role in the company? How does is it aligns to the Product Management of the company?

3.- What is the approach of Product Management in your company? How do you carry out Product Management?

Stakeholders of Product Management

1.- What is the fundamental role of the Stakeholders of Product Management in your company?

2.- Which are the Stakeholders in the company?

3.- Which are the most common stakeholders of Product Management in your company? How does the Product Manager identify the stakeholders in the company? And what process do you have to select them?

4.- Which are the key stakeholders that have more relevance in your activities in the company? Can you identify them?

5.- Can you classify your stakeholders into an internal or external group? And which group is more important?

6.- Define the primary or internal stakeholders in your company.

7.- Define the secondary or external stakeholders in your company.

8.- What kind of communication the area of product management has with the stakeholders of your company?

9.- What importance do stakeholders have for the product manager in the regular activities in the company?

10.- Under the definition of stakeholder salience, is it a normal practice in your company to classify the stakeholders? Do you use the salience to categorize your stakeholders?

11.- Can you identify the salience in the external and internal stakeholders? (based on power, legitimacy and urgency)

12.- Do you assess your stakeholders by their salience in the different projects?

13.- Within your different projects, do you consider the actions of every stakeholder and their purpose in the project? (identification, classification and management)

14.- Please explain, how do you do the identification, classification and management of stakeholders.

15.- Which stakeholders are you paying attention the most? And why?

16.- Do you perform a risk assessment to each stakeholder in the company? How do you evaluate the risk?

17.- What challenges do you identify regarding the stakeholder identification?

18.- What benefit does the stakeholder identification provide for your role in the company?

19.- Should the stakeholder identification be done in the early stages of the project? Why?